College and University Business

DECEMBER 1950: College Independence Jeopardized ★ Investment Management ★ Small College Laundry ★ An Adequate Maintenance Program ★ Physical Education Facilities ★ Food Service Standards

NOSE IN HIS BOOK....

Mind in the Clouds?

NOT this boy. He's studying hard to learn—that he may make a substantial place for himself in his world of tomorrow. Many advantages are his as he strives for knowledge, including the advantage of being able to study in pleasant surroundings, under ideal health giving conditions.

Educators, today, have taken to task the problem of affording students the best possible conditions for learning. And to insure alert, attentive minds during classroom hours much attention has been focused upon *Controlled Atmosphere.* It has been found that pupils show greater interest in activities—advance more rapidly when healthful temperatures, correct humidity and adequate ventilation prevail.

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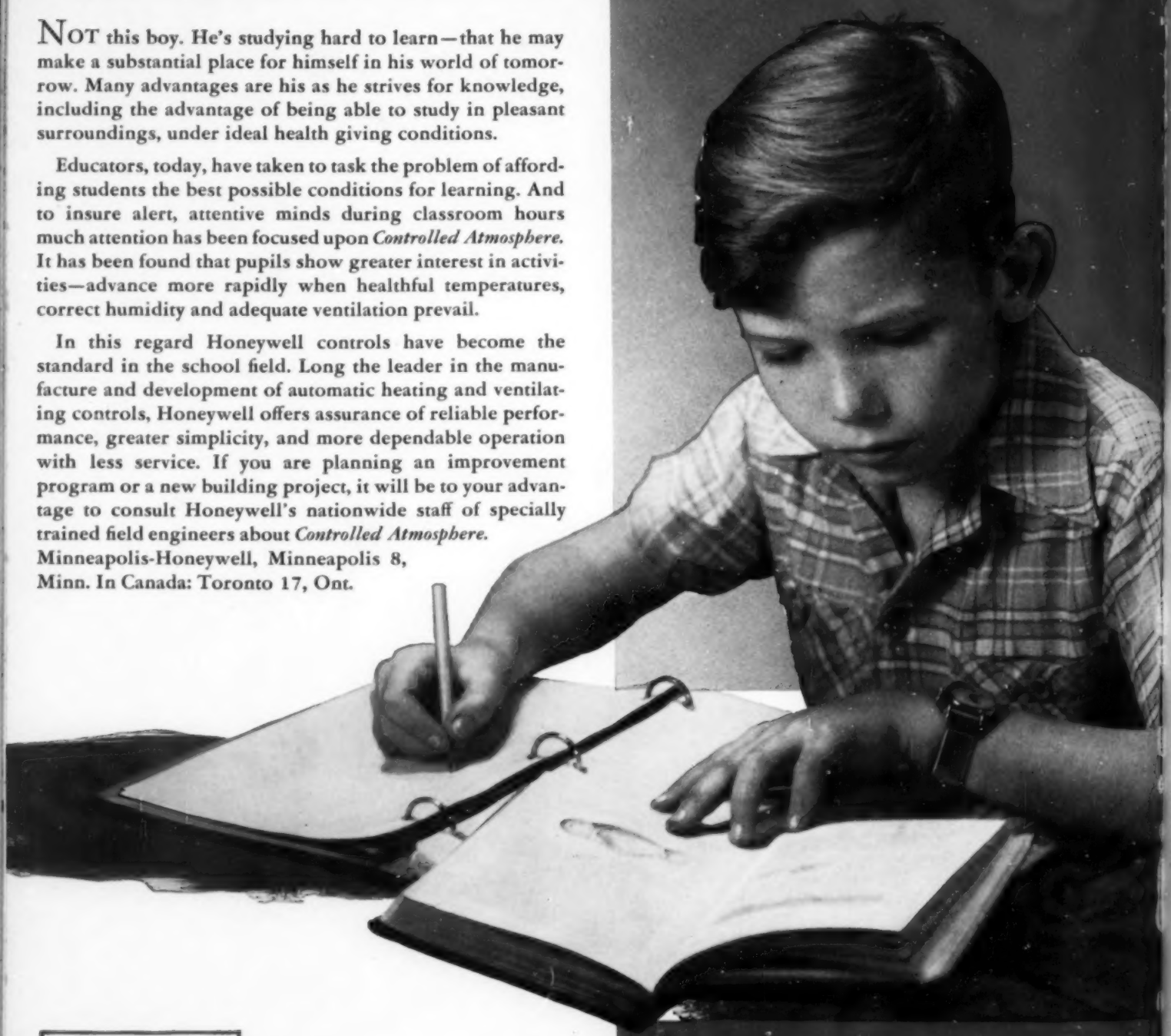

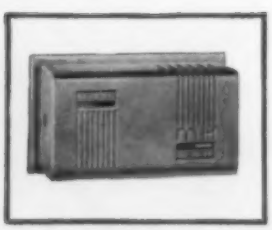

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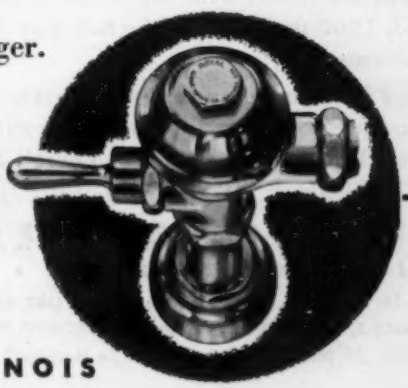

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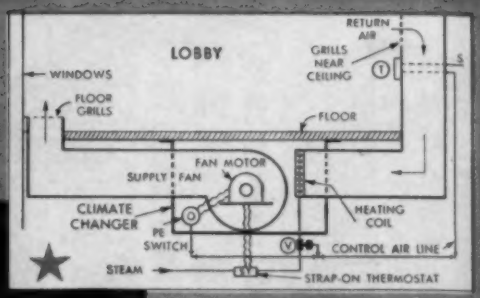

★ NOTE the novel solution to problem of supplying heat and ventilating in an unobtrusive manner. Strap-on-thermostat prevents operation of fan when no steam is available. Pressure electric switch stops fan after valve is closed.

Left: View from inside Metallurgical and Chemical Engineering Building shown below.

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Consulting Engineer: Robert E. Hattis

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Published monthly by The Nation's Schools Division, The Modern Hospital Publishing Co., Inc., 919 North Michigan, Chicago 11, Ill., U. S. A. Otho F. Ball, president; Raymond P. Sloan, vice president; Everett W. Jones, vice president; Stanley R. Clague, secretary; J. G. Jarrett, treasurer. Copyright 1950, by The Nation's Schools Division, The Modern Hospital Publishing Co., Inc. Acceptance under Section 34.64, P.L. & R., authorized. Published on the tenth of the month of the date of issue. Change of address should be sent thirty days in advance of publication date.

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Among the Authors

H. M. Wriston

HENRY M. WRISTON, president of Brown University since 1937, calls attention on page 19 to the threat faced by colleges today in attempting to maintain their independence. Long known as a forceful independent in political thinking and a tireless exponent of liberal arts education, Dr. Wriston has been president for the last two years of the Association of American Universities, which is now engaged in a study of the financing of all types of higher education in the United States. Before becoming president of Brown, he had been president for 12 years of Lawrence College in Appleton, Wis.

F. J. Brown

FRANCIS J. BROWN, staff associate of the American Council on Education, describes on page 23 the confusion facing educators in Washington in attempting effectively to integrate higher education into the emergency created by international developments in Korea. Dr. Brown's many official responsibilities with congressional groups and with the armed services permit a unique inside look into the Washington machinery of legislation. He was executive secretary of President Truman's commission on higher education and is a member of the advisory board of the United States Armed Forces Institute and a host of other official boards, commissions and committees.

G. Glarner

GAYLORD GLARNER, investment counsel of the University of Minnesota, describes on page 27 the policies followed by the university in establishing its investment program. Prior to entering the navy in 1941, Mr. Glarner had worked as an assistant cashier in a Minnesota bank. As a result, his navy assignments included that of being a supply and disbursing officer. While at sea he received an invitation to return to his alma mater, the University of Minnesota, in the capacity of investment counsel upon his release from active duty in the navy. He is now happily married and proud of three children.

H. C. Cope

HAROLD C. COPE, manager of residence halls at Earlham College in Richmond, Ind., states on page 38 that operation of a laundry by a small college is a sound enterprise. Laundry operation is merely a sideline at Earlham for Mr. Cope in his capacity as director of residence halls, food service, and other operations. A 1941 graduate of the hotel administration course at Cornell University, he worked at his alma mater for five years in the student union before going to Earlham in 1946. He keeps brushed up on teaching with a course in quantity food and institutional management and just recently supervised the furnishing of a new residence hall for women. On the side, as a result of Boy Scout interests, he teaches a course in camping and woodcraft.

IDEAS from PROMINENT FOOD SERVICE INSTALLATIONS

Fuller Brush Company Cafeteria reduces maintenance costs with Blickman-Built Equipment

NOVEL HOT FOOD SERVING UNITS INCLUDED IN INSTALLATION

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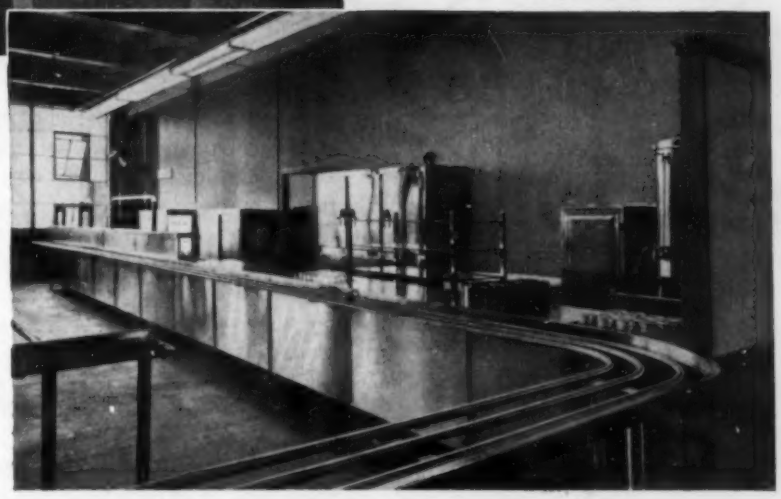

STAINLESS STEEL COUNTER & TRAY-SLIDE in the Fuller Brush Company cafeteria. Even the concentrated lunch-hour rush finds everything spotless and an incentive to food enjoyment. Blickman-built stainless steel equipment is easily kept in immaculate condition. The highly-polished surfaces resist adhesion of dirt and food particles — are permanently bright and attractive.

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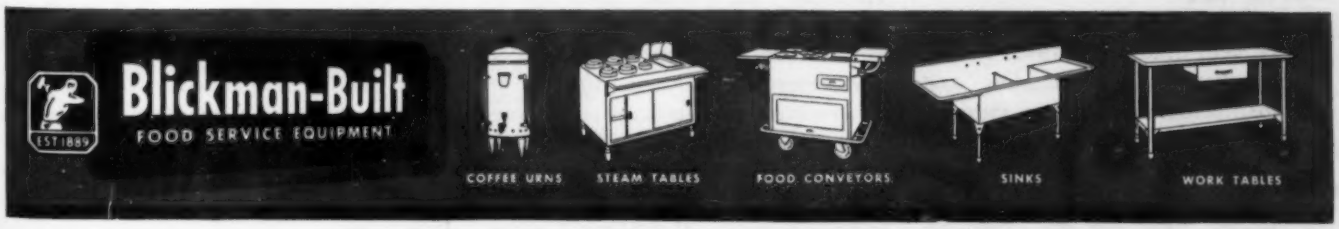

Questions and Answers

Coeducational Dining

Question: Is it desirable in residence hall dining rooms to serve mixed groups—men and women?—W.M.H., Wis.

ANSWER NO. 1: From an educational standpoint it can be highly desirable to make use of coeducational dining. Social graces as well as social "contacts" are easily established in this normal way of life.

In large schools, however, space limitations can be a practical reason for segregation of dining facilities. Another pertinent factor is menu trouble. Men, as a rule, require more of the meat and potato variety while the women want more salads. However, this can be overcome, and perhaps the effort in planning menus is worth the trouble so as to achieve other results.

"Exchange dinners" also can be used as a means of bringing the students together. This usually results in some sort of special menu and really does not answer the question asked, but it might help if other factors prevent daily mixed dining.—WILLARD J. BUNTAIN, *director of dormitories, Northwestern University.*

ANSWER NO. 2: We have found that it is advantageous to serve both men and women in the same dining room at The Principia. It teaches them how to live normally together and certain courtesies are learned in this way that they would not have otherwise. Also, we have found it easy to plan food for our combined groups. They learn to eat food not just for men, or not just for women, but menus planned for the combined groups.—ANNABEL KELLEY, *household manager, The Principia.*

Flexible Budget Items

Question: What can be considered the most flexible item in an institution's budget? —D.H.E., Minn.

ANSWER: In the short run, the most flexible item in an institution's budget is the allowance for building and grounds maintenance. When immediate economies are necessary, it generally is possible to defer to a later date a portion of planned maintenance. In the "longer" short run, the expansion of the educational program and the acquisition of capital equipment are reasonably flexible and generally can be reduced in the interest of economy. In the long run, I believe that salaries are the most flexible item in an institution's budget. Total expenditures for salaries can be reduced by failing to fill employment vacancies through spreading the work, and, although it is the less desirable, the reducing of salaries of current personnel. —T. N. MCCLURE, *business manager, Knox College.*

Social Security Program

Question: Should privately endowed colleges participate in the social security program? Should it supplement or replace existing pension plans?—L.E.L., Wis.

ANSWER: The question of participation by privately endowed colleges under the extension of social security necessarily must be considered on an individual basis. However, it may be helpful to the institution considering the matter to know what other colleges plan to do. It appears that many colleges and universities that now have benefit plans intend to supplement these benefits by participation in social security.

Fewer than 25 per cent of existing retirement plans provide benefits generally considered adequate. Part of the reason for this inadequacy undoubtedly lies in the fact that many colleges have been delaying action to see what would occur with O.A.S.I. coverage. Under the new social security law, long-range plans now can be made. It is doubtful that many colleges will replace existing pension plans with social security.

Surveys indicate that many pension plans now in existence do not include coverage of nonacademic employes. Therefore, one distinct advantage of social security is that the coverage will include all employes of the college, regardless of rank. Institutions not having social security or comparable retirement benefits may very likely encounter difficulty in hiring employes in the future.—E. CLARENDON SMITH, *business manager, MacMurray College.*

Soundproofing Walls

Question: Is there an effective and inexpensive method of soundproofing cinder block partition walls, particularly in classroom buildings, after erection has been completed and the walls have been painted? —H.L.D., Mo.

ANSWER NO. 1: I know of no effective or inexpensive method of soundproofing a cinder block partition except to construct another surface adjacent to the original wall. It is likely that the majority of the sound is being conducted through the wall by "drum action."

The effectiveness of this wall might be improved by providing wood furring which does not touch the present block wall—many materials may be applied to the surface of the furring strip. An additional cinder block partition adjacent to the old wall with air space between both walls also would be effective but, unfortunately, not inexpensive.—PHILIP E. KEENE, *college architect, State College of Washington.*

ANSWER NO. 2: I presume the inquirer means to reduce the sound that travels from one classroom through the wall to the space on the opposite side. The wall itself, if faced with a hard material such as asbestos cement, will reflect the sound into the room where it is generated and will materially reduce that transmitted. If school officials do not mind the mess, a hard surface plaster applied to both sides of the wall would be most effective. It is necessary to check the pipes or ducts that may pass through the wall from one room to another and the doors and other openings, as even the smallest continuous air space will act as a perfect sound conductor.—LESTER RIES, *superintendent of buildings and grounds, Oberlin College.*

ANSWER NO. 3: I know of no inexpensive method of soundproofing cinder block and partition walls after erection has been completed and the walls have been painted. There are ways of doing this but they require supplemental construction that is *not* inexpensive.—A. F. GALLISTEL, *director of physical plant, University of Wisconsin.*

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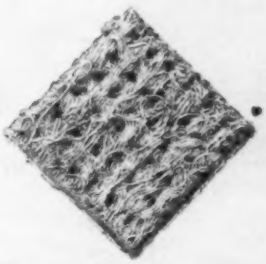

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Triscuit wafers ...as a Snack

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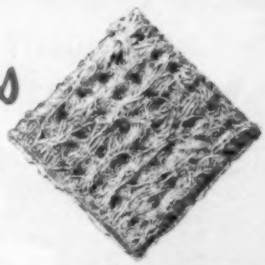
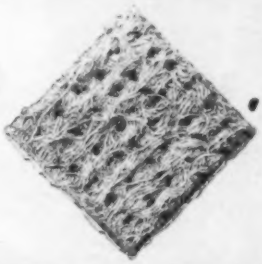


Triscuit wafers ...with Soups



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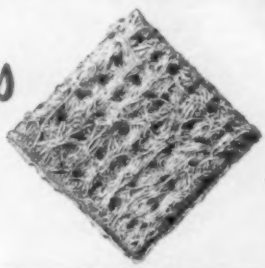

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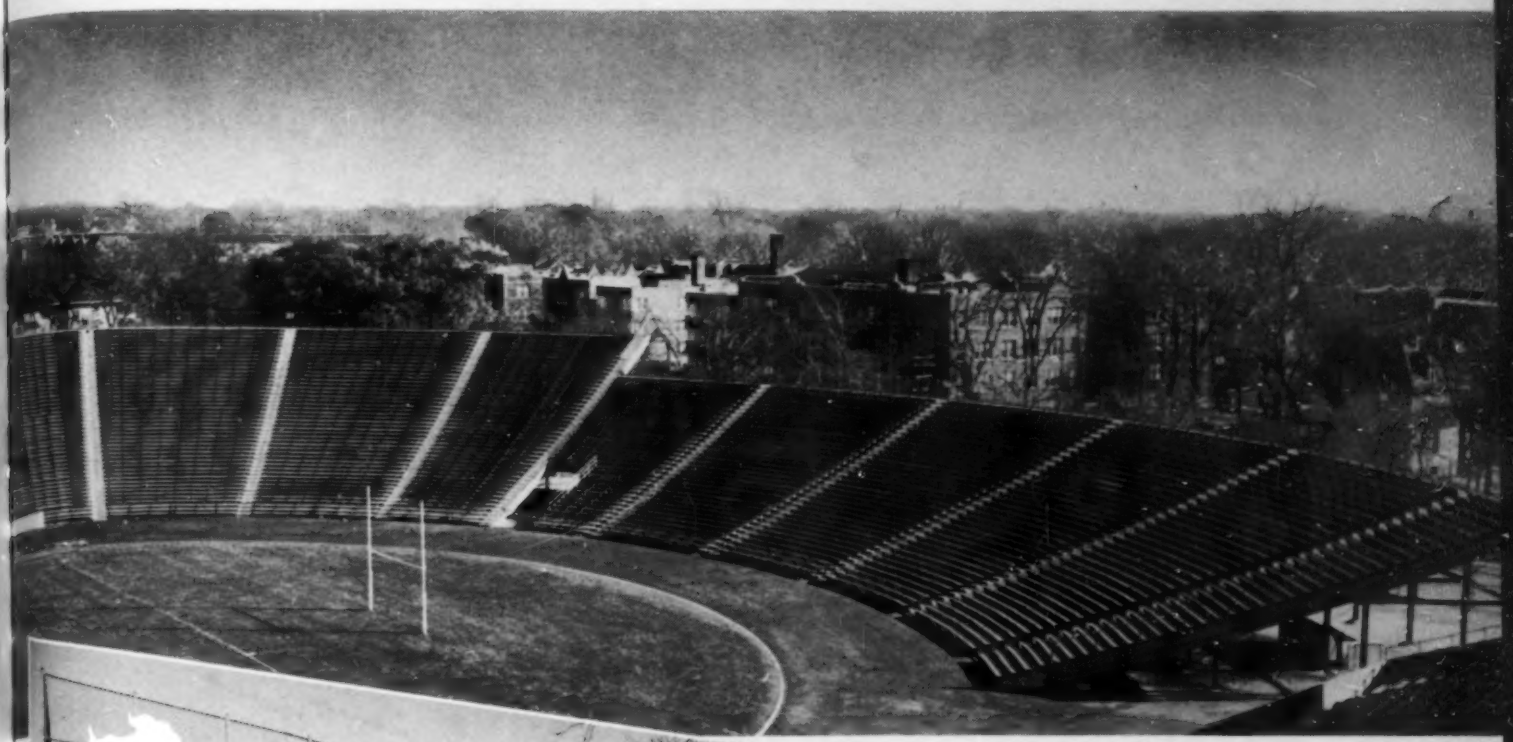

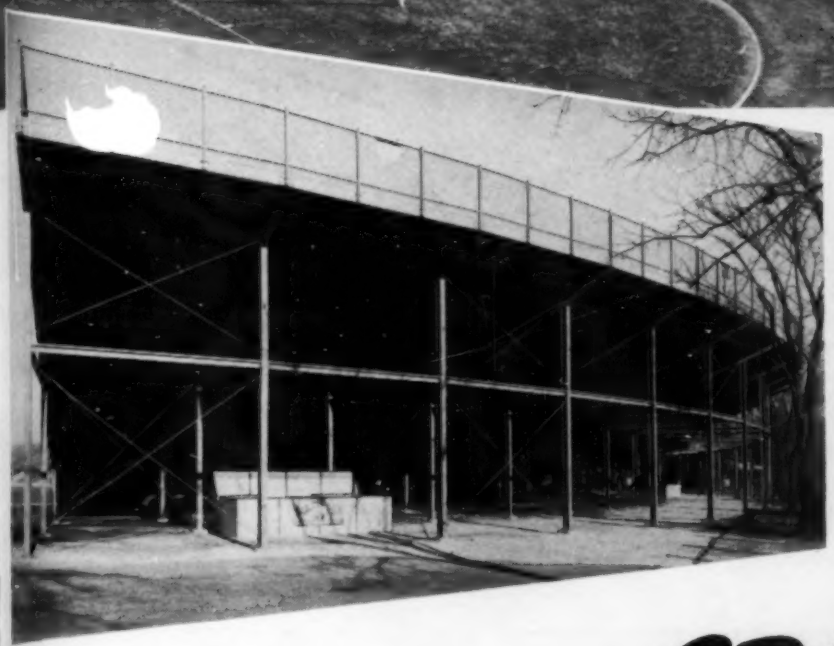

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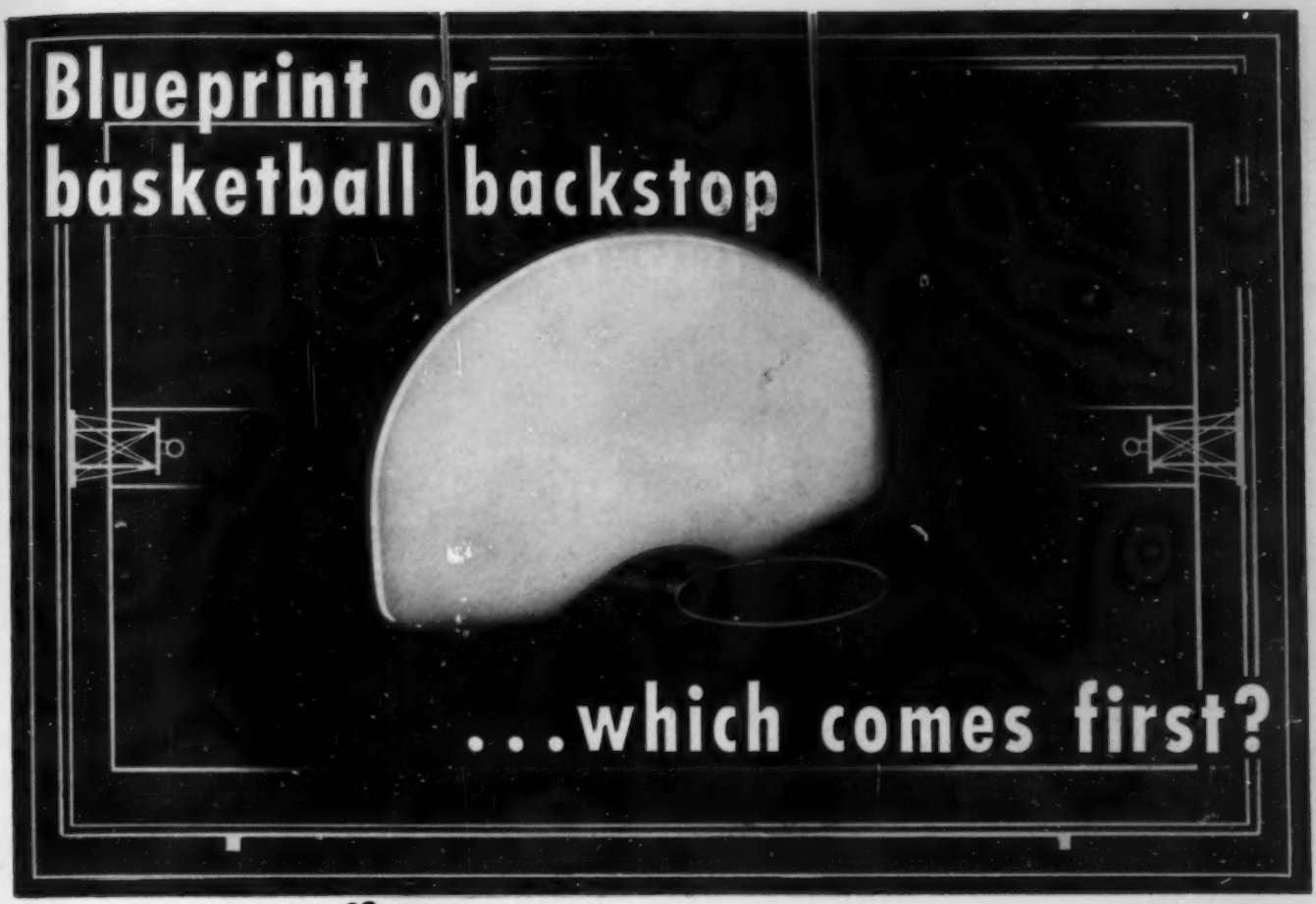

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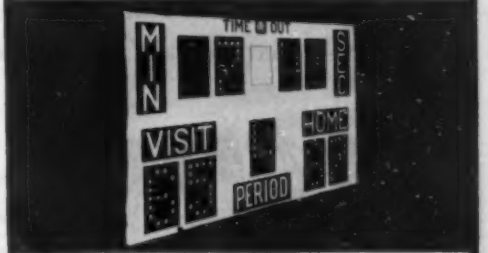

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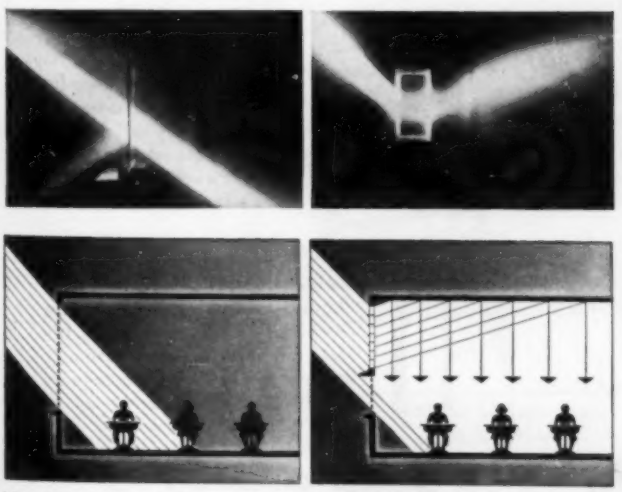

Above, child near ordinary window gets harsh brightness and glare, others suffer from high degree of contrast, need overhead light. Right, light beams striking Insulux Glass Block No. 363. See how built-in prisms route light UP, and spread it. Result is even, diffused light over all parts of classroom.

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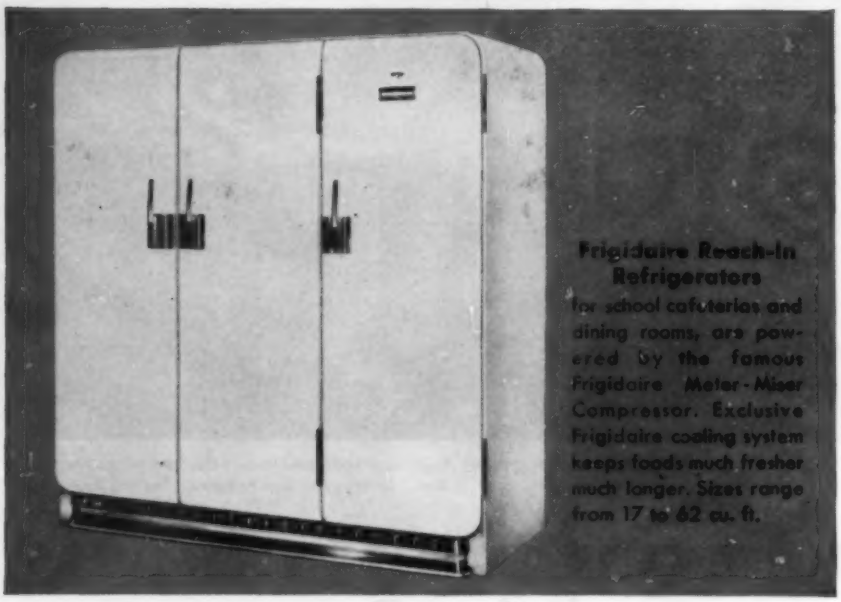

Frigidaire Reach-In Refrigerators for school cafeterias and dining rooms, are powered by the famous Frigidaire Meter-Miser Compressor. Exclusive Frigidaire cooling system keeps foods much fresher much longer. Sizes range from 17 to 62 cu. ft.

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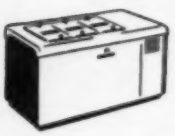

Ice Cream Cabinets give more capacity per dollar of cost than other leading makes. Sizes from 4.8 to 17.1 cu. ft.

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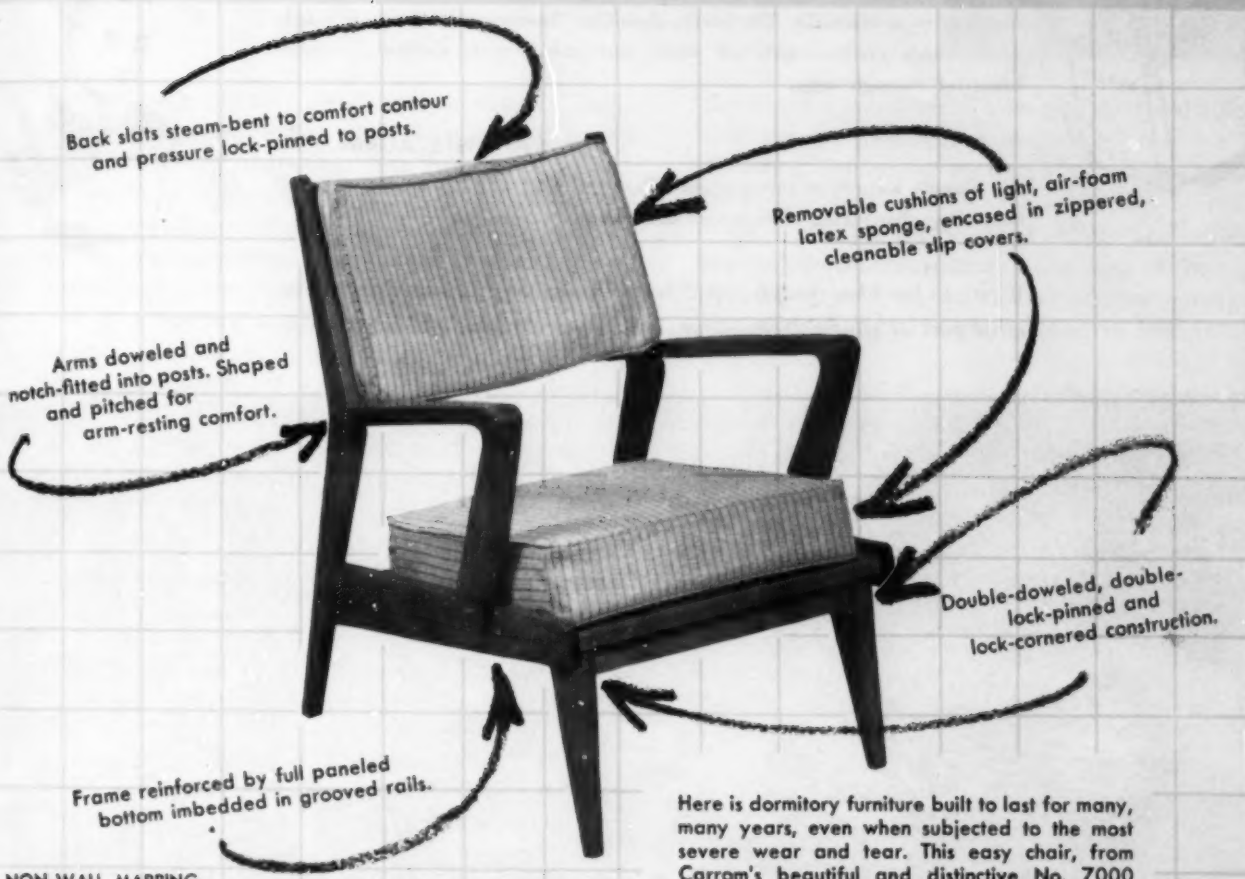
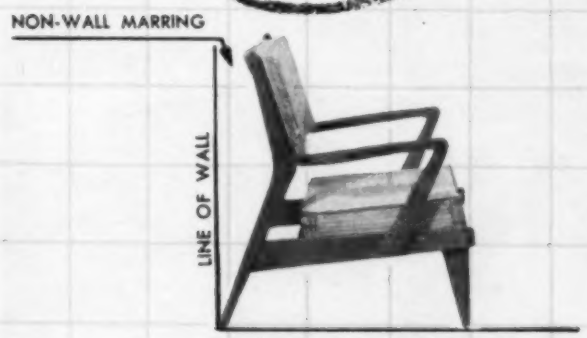

Back slats steam-bent to comfort contour and pressure lock-pinned to posts.
Removable cushions of light, air-foam latex sponge, encased in zippered, cleanable slip covers.
Arms doweled and notch-fitted into posts. Shaped and pitched for arm-resting comfort.
Double-doweled, double-lock-pinned and lock-cornered construction.
Frame reinforced by full paneled bottom imbedded in grooved rails.



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IN UNITY THERE IS STRENGTH

JAMIE R. ANTHONY
President, Southern Association of College and University Business Officers

A HISTORICAL EVENT OF GENUINE SIGNIFICANCE to college business officers took place last September in Chicago. At that time, the first steps toward formation of a National Federation of College and University Business Officer Associations became reality, when representatives from six business officer associations came together for earnest discussion.

Such a meeting was not the overnight brainstorm of one individual or of a particular regional business officer association. It was an evolutionary development in the thinking of competent college administrators who recognized the value of unified action. In atomic powered days, a horse-and-buggy pace has a hard time keeping up with the parade. The regional associations must continue to serve the particular interests of their constituency, but, in addition, they must be implemented for tasks of national concern.

Relationships with the federal government are becoming so numerous and complex as to require common and concerted action by all college business officer groups. Present experience has demonstrated that a problem solved by a regional association sooner or later has to be tackled by one or more of the other associations. It seems wiser to be able to decide the issue for all associations the first time it arises. A federation would be a tremendous aid to college business officers in striving for and accomplishing that objective. To quote Lloyd Morey: "I sincerely hope that all of the organizations concerned will approve . . . and that the federation can be established as a working body. We went through, some of us, two previous wars without the benefits of unified or coordinated organization of business officers. The disadvantages were many and constant. They meant that individuals had to step in and try by personal influence and otherwise to do things that should have been done in the name of a unified organization."

Much as some may cavil regarding the federation's purpose and objectives, it is imperative that some improvement in closer integration of business officer policies be achieved. National policies that are of concern to college business officers are being formulated in Washington, but most federal consultation with college administrators is sporadic and infrequent. The time for consultation with governmental agencies is during the formulation of policies; now we hear anguished appeals and protests after a policy becomes *fait accompli.*

Some justify a federation of college and university business officer associations on the basis of the urgent demands created by the current national emergency but are doubtful as to its function in less strenuous times.

During "normal" times (if there ever is such a period), a federation could be of genuine assistance in the development of professional standards of competence. Physicians must pass a state medical board examination before being permitted to practice, and a similar requirement applies to lawyers. Neither of these practitioners can qualify for the examination until he has completed a prescribed course of study. How does a college business manager get that way? He neither studies a prescribed course nor does he take an examination to enter the "profession."

And what of research?

As college business officers, are we aware of the best practice in our accounting procedures? Do we know what percentage of our budget should be devoted to maintenance? Are we up to date on present trends relative to pensions and other personnel policies? What can be considered to be a good standard of food service operation? There are many problems which many of us need help in solving. Research on our business technic problems, under federation sponsorship, might help us "out of the woods."

It seems an anomaly that college business managers, who pride themselves on being efficient and "on top of their job," have so stubbornly avoided previous attempts to bring the regional associations together in partnership. Some have wondered what might be the future of a federation of college and university business officer associations and what it may cost to maintain and operate such a federation.

The answer to the last question lies with the regional associations themselves. They can kill the idea of a federation through apathy and indifference, or they can build a structure that will serve them well and economically. In unity there is strength.

Looking Forward

Universal Military Training

WHEN THE 82D CONGRESS CONVENES IN JANUARY, college administrators will discover that universal military training is very much "in the works" as the result of studies by Chairman Lyndon Johnson of Texas and the Senate preparedness committee. It is likely that the committee will recommend a universal "service" training program instead of referring to it as "military" training. It is expected that President Truman will enthusiastically endorse the program and order federal agencies to implement it.

Many of the arguments for universal military training are pertinent, particularly the emphasis that the hazards of war should be shared equally and that we shouldn't expect untrained youth to face battle risks. Few of us would challenge such philosophy.

College executives should be asking several questions about the program, however. Will it supply the military force we need in a period of mounting international tension? Where do colleges fit into the picture? Why is such legislation needed, when the inherent powers of selective service are so broad? How long before such a program could be put into effective operation? Such questions do not lend themselves to easy solutions, but college administrators should be concerning themselves with what some of the answers may mean in terms of the future of their institutions.

Critics of the universal military training program contend that selective service now recruits and screens all the young men that the armed forces immediately want and are able to train. From what source would officers be recruited? The current bill would require all young men between the ages of 18 and 20 to take one year of military training or its equivalent. In the event that such a program was adopted, officers for training the men would have to be recruited from combat areas where they are desperately needed. Unless the Department of Defense intends to train all young men for combat service in each age group, why give preparatory training to all of them? As one observer has cogently pointed out, a good coach trains only the men who can be expected to contribute to the success of the team.

Though some college presidents have enthusiastically endorsed the idea of universal military training, the American Council on Education has gone on record as opposing the program on two previous occasions when the membership of the council balloted on the subject. Dr. Francis J. Brown, staff associate of the council, states that "in the light of the present situation, talk of universal military training seems but the advocacy of a theory contrary to fact. If its justification is that of strengthening immediate military power, the plain fact of the matter is that there will be neither 18 year olds nor officers for such training. We now have universal military service and the establishment of universal military training would only draw up both officers and potential youths from active service. If its justification is the long-range establishment of a military reserve, there is no justification for utilizing the emotionalism of the moment to put such a law on the statute books."

Should a universal military training program be enacted, would there be a tendency for the public to be lulled into a false sense of security? What is U.M.T. going to do to the education of young men; is not an educated citizen of the future as potent a security resource as a superficially trained soldier today?

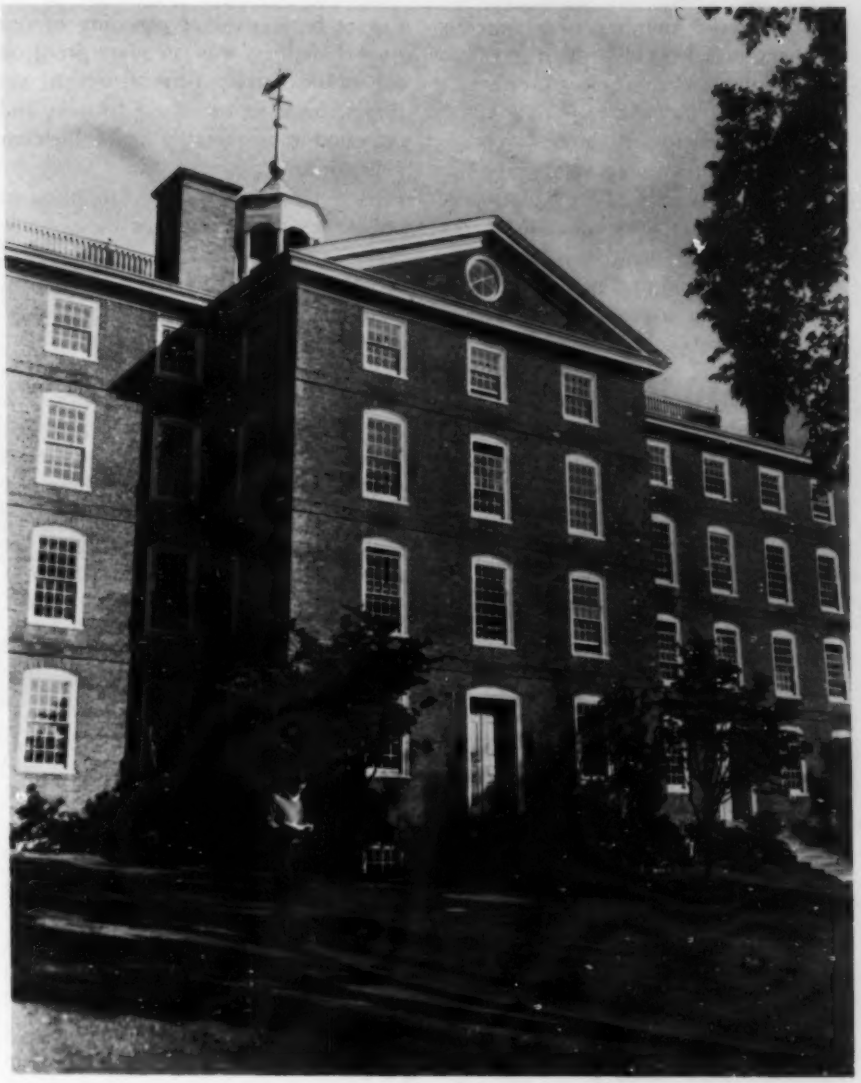
The question for college administrators to consider in studying the problem is whether, in the long haul, such a program represents the most effective contribution to the security of the nation.

An Improvement

A NEW YORK TIMES SURVEY OF 17 SOUTHERN STATES employing the system of segregated education reveals that at least 1000 Negroes now are attending classes in southern colleges and universities alongside white students. The survey indicated that the change in policy had been accomplished without the friction that the calamity howlers had predicted.

Impetus for a change in policy came from decisions of the U.S. Supreme Court requiring equal educational facilities for Negroes and whites. The encouraging aspect of the situation, however, was that there is a "perceptible change in atmosphere," as the *New York Times* stated it.

Any advance in solving this problem can be considered as progress and deserves encouragment. The need for improvement is nationwide, and no section can afford a "holier than thou" attitude. There is still a long way for all of us to go.



University Hall, a famous Colonial landmark on the campus of Brown, Providence, R.I.

Which way

INDEPENDENCE!

HENRY M. WRISTON
President, Brown University

I BEGIN WITH THE OBVIOUS, BUT ITS obviousness does not detract from its importance: The universities of America are in a critical state. This crisis arises, first, from a great obligation that they inherited as a consequence of the war. Before America had true universities, we borrowed heavily from Europe in the intellectual sphere. The disruption and disorganization occasioned by political tyranny and war have so sapped the intellectual energies of European universities that they are no longer in a position to maintain their export market. Our universities alone can make us a creditor nation in this respect.

The universities are in crisis, also, because their fundamental philosophy is still dominated by Europe. In their formative period German scholarly procedures so captivated the minds of those who brought them home after training abroad that our graduate work, though diverging more and more, nonetheless follows the German model. Two wars revealed the weakness of German scholarship; magnificent in its precision, impressive in its thoroughness, it was markedly deficient in a sense of values. Amoral detachment left the road clear for immoral politics, domestic and foreign. Overattention to method with underemphasis upon values is a serious defect which American universities derived from their German inspiration. The time has come to redress the balance of emphasis and eliminate that evil.

The third occasion for crisis is the enormous diversification of university programs. There are many kinds of schools and colleges, undergraduate and graduate, within universities, many research institutes, and other constituent elements. Their natures often are so different and their controls so various that sometimes the university becomes a mere collection of virtually independent units; the total structure is without coherence. Moreover, as professional associations gained power, in the name of raising "standards," they subjected institutions to so many requirements that the determination of policy in certain areas is more external than internal. The disintegrating process has reached so advanced a stage that only the greatest administrative skill and firmness can reverse the trend.

The crisis exists in the fourth place because society has laid upon the universities burdens without supplying commensurate resources. They were required to accept multitudes of students when there was no corresponding in-

From an address given at the inauguration of President Millis at Western Reserve University, 1950.

crease in the number of competent teachers, no adequate growth in libraries, laboratory facilities, and physical properties.

Many agencies of government as well as strong social pressures tend to enlarge attendance. Numbers would contribute much less to crisis if the surge reflected a great intellectual renaissance, vast enthusiasm for humanistic studies, and scientific investigation. Unhappily, it is more a consequence of philosophies of social amelioration and of political sentimentalism than of deep intellectual purpose.

There is crisis also because even at a moment when the professoriate enjoys less public confidence than for many years, when nervous fear of "Reds" in the colleges is widespread, the nation is dependent upon the universities for experts. Administrators have been harassed by the demands of the military government of occupied territories for the loan of staff members, by calls from Washington for the detachment of professors for specific enterprises, and by the urgency of research for defense and public health. In some institutions extra-academic activities and research contracts have led to dislocation of staff and distortion of program, which culminate in drawing energy away from the teaching function.

EXPENSES ARE UP

There is a crisis, finally, because university expenses have gone up. The costs of heat, light, maintenance, mechanical and other services have advanced sharply. Would that costs of instruction proper had gone up equally! But during inflation the professor is the forgotten man. His standards of living have been depressed to a degree no labor union would tolerate. It is most serious in lowered standards of intellectual life. Academic poverty inculcates slow, wasteful, ineffective methods of work; such concealed costs are very serious, even though they are not revealed on a university balance sheet.

It will not suffiice, if we are to master the crisis and strengthen the universities, merely to mouth magic words, old or new. In modern political literature one such word stands out so conspicuously that it could be nominated the "Word of the Half-Century." "Planning" became the shibboleth of liberalism and the verbal solvent of the ills of the world.

At the height of its vogue came an unplanned war. Certainly America cannot be accused of planning it; our unpreparedness was adequate proof on the point. Surely Britain, which was driven back to its island fortress and appealed in desperation for obsolescent rifles, did not plan the war. Clearly the French with their ceaseless shuffling of politicians in the name of the government did not plan it. Even Hitler and Stalin, playing their devious, cynical games of power chess, did not plan it as it actually transpired.

As nations did not plan successfully for peace, so also they have not succeeded in planning their economic life. In Britain a Socialist government adopted "austerity" as the keystone of planning. Yet the most significant development of the past year was the devaluation of the pound. That was not planned. When the British pound toppled, the currencies of 20 or more nations were dragged down with it. The International Monetary Fund, which was to plan such matters, became virtually a spectator; devaluation, as it actually occurred, was the complete defeat of planning.

America supplied a master plan—the Marshall Plan. It has, indeed, achieved great things. It has brought time for moderate elements to hold the reins of government in Europe and let economic systems recover poise and re-energize production. But no one any longer expects it to close the dollar gap by 1952; "integration" remains a slogan rather than a program. In those and other respects the plan is not moving according to schedule, but upon lines quite different from those conscious directions which were set forth.

In the United States the best laid plans of the Department of Agriculture have been upset by unplanned overproduction. The losses of the Commodity Credit Corporation rise in a dizzy spiral. When Denmark sought to narrow the dollar gap (as we demand) by shipping us 4,400,000 pounds of butter at less than the current market, an import license was refused because the Commodity Credit Corporation has 100,000,000 pounds in storage! International planning by E.C.A. and isolationist planning by C.C.C. cancel each other; the State Department plan for reciprocal trade and the Department of Agriculture plan for price supports are in conflict. Clearly such planning is an incoherent hodgepodge. The Hoover Commission made it clear that federal planning for education has been the same kind of patchwork policy.

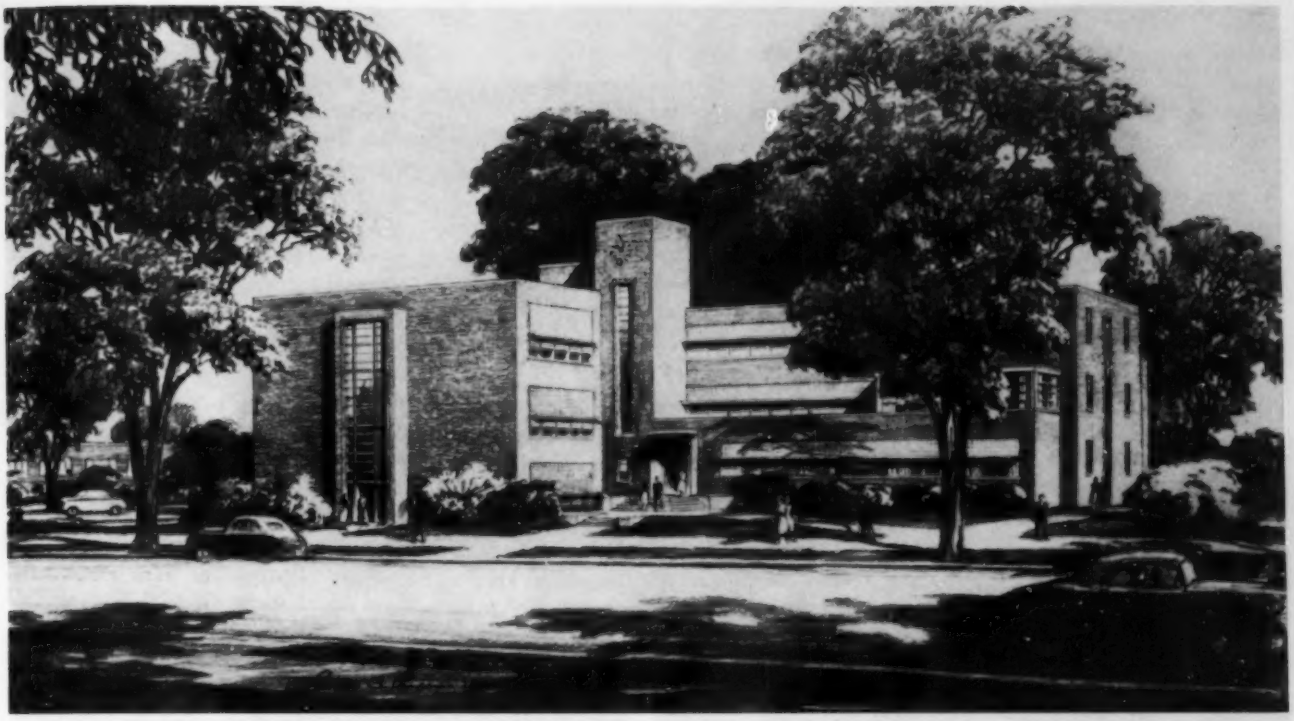
In the course of 10 years, therefore, "planning" has ceased to serve as a reliable touchstone of progress. Indeed, if we look below its surface glitter, we find that it does not overcome the human habit of procrastination or the political tendency to temporize.

What is true in economics and politics is true in education. We have hesitated to make up our minds about several elements of the current crisis; meanwhile, events outrun decision and force the pace; unplanned realities loom up out of the muddle of indecision. Federalization of American higher education is coming by drift, not by design.

PERTINENT EXAMPLE

Medical education supplies a pertinent example. There may be a federal subsidy for medical schools. The authorization passed the Senate, had a favorable committee report in the House of Representatives, and is desired by the Executive. This action was being taken without much public discussion. Not all universities urged such an appropriation, but none resisted it. This bill finally died in House committee, but undoubtedly the matter will be revived in the 82d Congress.

This marked change in the tradition of our government and in the management of our universities is taking place without regard for its ultimate effects. Attention is concentrated upon instant relief; eventual implications go unheeded. So far as political interference with educational matters is concerned, the bill, as drawn, was reasonably innocuous; the amount of the initial appropriation was small, so its leverage would not be decisive in most institutions. These sugar-coatings concealed the fact that as appropriations grew, as the procedures for their administration developed in bureaucratic detail, as the medical schools became more and more dependent upon federal revenue, universities might find themselves in a wholly unplanned situation, with impaired capacity to discharge the educational trust committed to them.



School of Applied Social Sciences Building, Western Reserve University in Cleveland. It now under construction on the campus of is expected to be ready for fall occupancy.

A vigorous movement to subsidize higher education generally is only a matter of time. Indeed, the President's Commission on Higher Education proposed a subsidy for public institutions and a minority of that body protested against the exclusion of private institutions. It is significant that they did not protest a subsidy, but only its restriction to public institutions. There was no such limitation in the bill to give federal aid to medical education. That precedent might become decisive in setting subsidy policy. If the trend continues as it has been developing in recent years, a general federal subsidy will be established by the cumulative force of specific instances.

So far we have only the thin edge of the wedge. Initial federal programs involve modest figures; they seek to avoid political interference with educational, scientific and cultural activities. Fears are quieted by pointing to the British university grants committee as a model that demonstrates how a national treasury can contribute to the support of higher education without controlling its program or policies.

Citing the British grants committee as a sound precedent for federal subsidies to American higher education is misleading in at least two respects, both of critical importance. The first is that under our political system Congress plays a rôle in appropriations which contrasts sharply with that of Parliament in Britain. Parliament makes appropriations in general terms and leaves wide discretion to the treasury. In Britain the interference of Parliament in the administration of a grant would result in upsetting the government, whereas in America such legislative interference is a matter of course.

WHAT HAPPENED IN A.E.C.

We have a clear instance right at hand. The Atomic Energy Commission set up a system of fellowships. The National Academy of Sciences and the National Research Council, as its agent, were assigned the task of independent, nonpolitical selection of fellows. Those bodies, in their concentration on scientific competence and in their political naïveté, made some selections that were unfortunate. Thereupon, in the next appropriation bill, restrictions were laid upon the expenditure of funds; these so seriously impair fundamental policy that fellowships for work in nonsecret studies are being discontinued, and the National Research Council is withdrawing from the administration of the remaining fellowships after next year because the National Academy regards the restrictions as "unwise from the standpoint of the advance of science in the United States."

That episode offers a conspicuous illustration of the way in which, under the American tradition, Congress can and habitually does control administrative policy in a manner that is inconceivable under the British system. When, therefore, the British grants committee is cited to prove that government can make grants without interference in academic matters, the answer has to be that there is no parallelism to justify the reference.

In the second place, the inferences drawn from the British grants committee are based upon a situation that no longer exists, even in Britain. That committee was established in 1919. When it formulated the classical policies on the basis of which favorable inferences are drawn, treasury grants were for a marginal part of university budgets. Originally one-sixth or less, even as late as the period immediately before the war grants amounted to only about one-third of the budgets. Since the war, however, the grants have risen above 50 per cent and in a year or two will exceed 60 per cent. Because grants are not the same percentage of the budget in each university, in some instances the subsidy may amount to as much as 70 or 80 per cent.

In its last report the grants committee candidly recognized a change in its relationship with the universities. "Events . . . have transformed the sit-

uation. . . . The question cannot . . . be avoided whether the greatly increased dependence of the universities on government grants may carry with it a threat to their continued existence as free institutions. The system . . . between the two wars was free of any form of state interference and control. . . . It is generally accepted that, in administering the much larger funds . . ., it is appropriate for us to exercise a somewhat greater measure of influence over university policy than hitherto. . . . When Exchequer money is involved on the scale now reached, the duty of ensuring that it is expended in the way best calculated to promote the public welfare is plainly imperative."

We should decide whether the trend toward federal support of American universities is to accelerate or is to halt. Before we are drawn into the dependent situation of the British universities, under much less favorable circumstances, we ought to look with great candor at the factors that produce federal aid.

BRITISH EXPERIENCE REVEALING

In facing the issue some phases of British experience are revealing. Subsidies were made to British universities because senescent capitalism gave them inadequate philanthropic support. Capitalism had manifested grave defections from its own philosophy. It atrophied as a result of monopoly practices in pricing arrangements and in market allocations (which permitted neglect of cost reduction); it substituted collusion for competition; there were widespread nepotism and managerial inertia; undermaintenance of plants, neglect of home investment, and the slighting of research (even hostility to it) resulted in retardation of technological improvement.

By short-circuiting competition, British capitalism kept marginal producers in business and relieved them of the necessity to exert themselves. This was the more disastrous because it coincided with the rise of competition from Germany, Japan and other countries, the decline of colonialism, and the cost of a world war. These circumstances should have stimulated British capitalism to intense effort, vigorous innovation, aggressive management, and lively marketing. In default of those qualities British trade lost ground even in peace time.

Furthermore, protection of the least competent management, which negated the competitive thesis underlying free enterprise, sold the worker short and drove him to look for "welfare" from government, not from production. Thus in two ways at least, both foreseeable and preventable, capitalism smoothed the way for socialism in Britain. When enfeebled capitalism no longer met its social responsibility to support free institutions of learning, government took over.

KEEP THEM SOLVENT

In America there is only one way to keep the government from taking over the independent universities and colleges, and that is to keep them vigorous, competitive and solvent. If private capital has only the *wish* to keep government out and not the *will* to keep it out, the financial status of the institutions will deteriorate to such a point that money must come from any source available to meet commitments to their faculties, the expectations of the young, and the demands of society. The medical schools have already reached a condition where they are ready for desperate expedients. Other phases of higher education are not far behind. If philanthropy withers, government will step in.

It is a matter for deep concern that already in one way or another—through government payment of fees, contracts for research, or other less obvious forms of payment—some independent, private institutions are (directly or indirectly) drawing half or more of their revenues from federal sources. By appointments and other commitments they are becoming dependent upon that support and, as a result, the government is getting a vested interest in their programs, procedures and even their methods of accounting.

Those institutions that have not followed this policy experience an adverse leverage against adequate personnel, adequate salaries, and adequate research equipment.

The trend to federal subsidy grows in part out of political ambitions and social utopianism. It is caused much more by the failure of people interested in free enterprise to give universities and colleges the resources essential to survival as exponents of independent education. The government cannot take over institutions that are not made ready to be taken over by those who have moral and official responsibility for their preservation. Gifts for higher education during the last two years fail to reflect the payment of the largest dividends in American history. The cold fact is that at present American educational institutions are not receiving fresh capital at a rate commensurate with the necessities for independent survival.

Men have always wished for a condition where poverty and other unpleasant things would be abolished, for the false utopia denounced by Kipling, "where all men insist on their merits and no one desists from his sins." In the same way, if the American university falls into the hands of government, it will be because those who believe in the freedom and independence of learning wish for them instead of exerting will power to maintain them. The task cannot be done by wishing; it will require the greatest possible sacrifices.

The sacrifices are of two kinds. The first is financial. Independent education is essential to the independence of both business and the church—and independence can be achieved only by gifts. Independent universities cannot enlarge their income adequately by increasing tuition, which is already high. An attempt to do so would simply price them out of an intellectual market and into a social market, which would mean saving something not worth saving.

The second sacrifice involves readiness to take the hazards that go with freedom. Universities cannot preach a conservative doctrine any more than they should preach a radical doctrine. If teaching is either conservative or radical, doctrine is set above the search for truth. The task of the universities is to evoke intellectual power, not to freeze an established pattern. They must stimulate students to seek to achieve ideal ends. This is dangerous business, for the use of minds is always dangerous.

WILLING TO TAKE RISKS?

The essence of capitalism is willingness to take risks: When risk taking is evaded, capitalism falters and socialism supervenes. The essence of a free educational institution is, in like manner, the willingness to take intellectual risks—else the process is sterile and can be molded by the government into propaganda.

Unless we are ready to make both these efforts, financial and intellectual, American universities might as well climb up on Uncle Sam's knee as quickly and meekly as possible.

Acme

Are we in the initial stages of what may be the Thirty Years' War of the Twentieth Century, a continuous period of public tension?

WASHINGTON, 1950

A picture of complete confusion

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THE MAJOR PROBLEMS THAT HIGHER education faces today may be grouped into three categories: (1) those pertaining to manpower; (2) those resulting from the wide diversity of judgment among educators, and (3) those involved in maintaining a balance between the immediate and the long-range view of higher education.

The greatest single need in the manpower situation is the definite allocation of authority within the federal government to appraise manpower needs and the availability of manpower, and to have sufficient authority definitely to determine over-all quotas for the total civilian economy on the one hand and for the military on the other.

The Washington picture today is one of complete confusion. By the National Defense Act of 1947 the National Security Resources Board was given the authority once vested in the War Manpower Commission to appraise manpower needs and availability and establish basic policies of allocation.

For two years this agency was virtually dormant, primarily because of the fact that the board had no chairman and its acting chairman was too busy with other matters to have time to establish basic areas of responsibility that the board would assume. Before the present chairman could begin the establishment of such policies, we were catapulted into war on June 25, 1950, and its consequent mounting demands for manpower. At the present time there seems some probability that the National Security Resources Board will assume the rôle that presumably it was given by law. But in the meantime powerful competitive forces are at work.

The military is dominant. It has said that we must have a standing armed force of 3,000,000 men, presumably by June 1951, though there is some indication that the date of reaching this figure may be postponed because of the unavailability of man-

From an address delivered at the 36th annual meeting of the Association of Urban Universities, Cleveland, October 1950.

power within the age limit and the restricting provisions of the existing Selective Service Act.

The Department of Labor has set up a manpower division, adding one more agency to an already confused picture. Selective Service is again in a position of major responsibility. While it does not have the same authority as during World War II, it continues to be a vital factor in the selection and assignment of manpower.

At this time it is uncertain as to the final resolving of the confused state that now exists. Many believe that the National Security Resources Board should be the agency to have authority for the absolute allocation of over-all quotas, including those to the military.

MILITARY SIGHTS SET TOO HIGH

A second aspect of the manpower problem is that of the potential demand that can roughly be classified into three areas: military personnel; experts and others for the civilian economy, and those "in training and preparation for activities essential to the national health, safety and interest."

The military has set a figure of 3,000,000 men continuously on active duty. It may be possible to fill the present quota but the restrictions against married men, those with dependents, and veterans, and the upper age limit of 26 leave relatively little reserve. Even more serious is the fact that these men are drawn in for a period of 21 months and when this period of service is over, the only source of manpower will be those reaching the minimum Selective Service induction age. Whether this is 18 or 19 is immaterial, since lowering the draft age would give relief for one year only.

Again using the 3,000,000 figure, it may reasonably be true that approximately 1,200,000 persons in service may be thought of as career militarists and hence would not need to be replaced except on the basis of normal mortality resulting from retirement, incapacitation or death. This leaves 1,800,000 to be replaced within each 21 month cycle. The total number of men reaching age 19 each year is only 1,050,000. This number will continue to decrease slightly for at least the next seven years until the effect of the increasing birth rate of the 1940's begins to show at the 18 or 19 year age level. It is obvious, when one recognizes also that at least 30 per cent are and will continue to be ineligible for military service, that the sights have been set too high for realization within the framework of existing law.

I have no basis on which to judge the validity of the 3,000,000 figure in terms of national defense and presumed world peace. There are, however, a number of facts that should be more definitely in the foreground of national planning. One is that if the world force for peace is in fact as well as in name a United Nations' force it may well be that other nations should be expected to provide a much larger proportion of the military manpower for defense of democracy throughout the world than is now contemplated. There seems merit in the proposal that a United Nations' legion be created with all democratic nations accepting their fair share of the manpower needs of such a military force.

A second point of emphasis is the extent to which the military, by job analysis and much more effective classification, could utilize either on a civilian basis or in uniform persons who it now declares physically unfit. In a period of stringent demands upon manpower is the basic premise of the military a sound one, namely, that every individual in uniform must be capable of being "a fighting man"?

In the light of the present situation, talk of universal military training seems but the advocacy of a theory contrary to fact. If its justification is that of strengthening immediate military power, the plain fact of the matter is that there will be neither 18 year olds nor officers for such training. We now have universal military service, and the establishment of universal military training would only draw up both officers and potential youths from active service. If its justification is the long-range establishment of a military reserve there is no justification for utilizing the emotionalism of the moment to put such a law on the statute books.

PEACE TAKES PLANNING

If we are sincere in our assertions regarding international cooperation, a single police force through the United Nations and eventual world disarmament, then we must not harness upon our nation a system that can be justified only on the basis that there is no peace except by preparation for war. We must not concede to the military an opportunity for it to imbue this philosophy of force in the mind of every able-bodied male. Whether the period of universal military training is a minimum of six months, as proposed by the bill now before the Congress, or two years, as is advocated by a number of college presidents, is immaterial. Neither of the bases for military strength upon which such a program must be justified are, in my judgment, valid. The issue of universal military training is one that must be of vital concern to every citizen and especially to those responsible for the education of our children and youth.

The greater degree to which we accept as a nation the responsibilities for military rearmament the greater the demand upon manpower for our civilian economy. There is the basic issue as to the extent to which civilian consumption should be cut back in the interest of production of the instruments of war.

SOME DEFERMENTS ESSENTIAL

The third problem area of manpower and one that is of immediate concern to education is the extent to which training and preparation for occupations essential to the national health, safety and interest shall be one of the major needs in manpower utilization. There is no longer any disagreement on the basic premise that we are not at the beginning of a World War I of 18 months' or of a World War II of five years' duration. We are in the initial stages of what may well be the Thirty Years' War of the Twentieth Century, a continuous period of tension interspersed by actual combat. If this is true, the welfare of the nation makes it imperative that we retain a continuing flow of men and women of high ability through our institutions of higher education to provide essential leadership in every area of American life and in our relations with the nations of the world.

We cannot again cancel out our insurance policy as was done in the later period of World War II; to do so now would result in a serious curtailment of the technological and intellectual leadership in America. Our superiority in the present conflict cannot be in terms of numbers of males for the facts of population make this self-evident. It must be in the superiority of our scientific, technological advancement if we are to win the struggle in which we are now engaged. This basic premise implies the absolute necessity

of some respective program of continuous deferment of students of higher ability.

A recommendation prepared by the Selective Service committees under the chairmanship of Dr. M. H. Trytten and released at the conference in Washington on October 6 and 7 convened by the American Council on Education proposed a cut-off score on a nationally administered test and the continuous deferment of all individuals achieving scores above the cut-off level provided they continue to be in the upper portion of their classes in college—50 per cent in the freshmen class, in the upper two-thirds of the sophomore, the upper three-fourths during the junior year, and in the upper half of the senior class if they are to be deferred for graduate and professional study. The committee's proposal so provided a period of four months during which the individual might procure employment in an occupation that would then provide for his continuing deferment in a field of activity essential to the national health, safety or interest.

This proposal was considered at length at the October 6 and 7 conference and again on October 24 and 25. The following resolution was approved unanimously and released to the press:

"WHEREAS, the military security of the United States rests upon its scientific, industrial, and intellectual advancement as well as upon its combat manpower;

"WHEREAS, many men can render more service in the armed forces after their college training than before;

"WHEREAS, the military forces will require trained medical and other experts after college and university education and it would be unfair to draft such men twice, once before college and again after completion of professional training;

"Therefore be it resolved, that

"At age 18, all men register, be given their pre-induction physical examinations, be examined by means of a nationally administered test to determine their aptitude for education and training, and be classified as physically fit or unfit, as eligible or ineligible for college training before military service. (Suggestion: The equivalent of the Army General Classification Test score of 110 be the national cutting score.)

"On the basis of nationally determined state quota, eligible men may then voluntarily apply for admission to or continuance in a college or university of their choice.

"After the student's satisfactory completion of a college level program and, if admitted, of graduate or professional education, he shall be liable for his full period of military service unless assigned by the President of the United States to some other service in the national interest. It is understood that, if the student voluntarily withdraws or fails to maintain satisfactory progress in accordance with the standards of the institution, he is immediately liable to call under Selective Service.

"It seems desirable that women be enlisted or commissioned on a volunteer basis in all noncombatant services appropriate to their training and to the needs of the armed forces."

There is complete concurrence with the Trytten report in the basic principle of continuance of deferment. The differences are in terms of details, namely, a lower cut-off score, the establishment of state quotas that in effect will result in a variable cut-off score among the states, and the elimination of the requirement that the individual maintain a given standing in his class. There is a further somewhat different emphasis, namely, that the President, through whatever board or national agency he may wish to establish or utilize, shall determine whether the individual upon completion of his education shall serve in the armed forces or in some other field of national service.

One method of increasing the number of individuals for positions of leadership is to increase the output of our educational institutions. There are perhaps three or four possible means of raising the output. One is by acceleration through which a larger proportion of young people complete a greater amount of education prior to

". . . We must not concede to the military an opportunity for it to imbue this philosophy of force in the mind of every able-bodied male . . ."

the time they will be inducted into the armed forces.

A second possibility would be to increase the proportion of young people of college age who attend our institutions of higher education. This may well involve the program of federal scholarships that has already been introduced into the Congress in order to eliminate the economic factor as a basis of determination of who shall go to college.

G.I. BILL EXTENSION

The third possibility would be to make a more intensive effort to assure the return of young men to college after their period of military service. This may be accomplished in part by the enactment of an extension of the G.I. bill to those who have entered military service after June 25, 1950. But an even more significant factor is that institutions adopt a program of flexibility in the awarding of credit, in the admission and readmission of students, and in their curriculums such as to facilitate return for the completion of or initial enrollment in our colleges and universities. Institutions should again seek to gear their instruction to the more mature minds of this second college generation of veterans.

The second major approach to the present problem of higher education is that of greater unanimity of judgment among educators on these basic issues. During 11 years in Washington, I have been constantly impressed by the failure of education to procure values that almost all desire because of differences of judgment in the methods of procuring such values, the unwillingness to compromise on details and reach a common point of view that all can and will support. Let me give only two illustrations, the latter applied to our present issues.

There is, I think, complete unanimity that a greater degree of economic security is desirable for all employes of our colleges and universities. The Federal Old Age and Survivors Insurance has, during its 16 years, demonstrated its soundness as a means of providing such additional security. Studies made by the American Council on Education indicated that approximately 85 per cent of the administrators of both publicly and privately controlled colleges and universities desired coverage for their employes. Yet the opposition of only one or two national organizations was successful in barring from coverage all employes of publicly controlled institutions which have any type of state pension system, regardless of how grossly inadequate the state system might be. A few relatively small church groups succeeded in so emasculating the bill as to make it extremely difficult to procure adequate coverage of employes not only of church-related institutions but of all colleges and universities.

At the present time the American Council on Education is working with the Bureau of Internal Revenue and the Social Security Administration to procure as liberal interpretation of the law as possible. But even though the principle was accepted by all, the unwillingness on the part of a few to accept the judgment of the majority as to details has much lessened the value of social security legislation.

The second illustration is applicable to the problems we are now facing. All are agreed on the basic principle that national security is dependent upon a flow of highly competent individuals into positions of leadership and responsibility. There is division as to details, as to the desirability of universal military training, and the methods through which individuals should be deferred. Unless educators can present a greater degree of unanimity of judgment as to these details, we are likely to give full opportunity to the military to determine national policies that may permanently deplete the services of higher education in the national interest. I am not suggesting that any individual or group should compromise basic principles, but all of us should be willing to compromise in terms of details in order that we may present a united front on an increasing number of basic issues that face our colleges and universities.

The third area of problem is that of the immediate future. Colleges and universities are just now entering upon what will be the lean years—they may even be the seven lean years. Certain factors may enter in to alleviate the situation to some degree. It is possible that military and other federal training programs may be allocated to selected colleges and universities. There is still no definite indication, however, either as to the need or as to the type of programs desirable.

Within the next two or three years the veterans of this present draft will begin to return to colleges and universities. It may well be that a federal scholarship program will increase the proportion of students of college age attending our institutions. All of these combined will, in my judgment, not prevent a farther drop of from 10 to perhaps 20 per cent in the national college enrollment by September 1951. Of course, it will not be the same proportion in all institutions. Men's colleges will again have the largest decline, professional schools the least. Publicly controlled institutions will drop less than those privately controlled, and junior colleges less than four-year institutions.

MUST PLAN FOR FAT YEARS

As I look beyond the seven lean years, I see, as in the Biblical story, seven and more fat years. The declining birth rate of the Thirties turned sharply upward beginning in late 1939 and with a slight dip in 1943 continued upward to 1949 and is remaining at a high plateau. This means that there will be approximately a 30 per cent increase in the numbers available for higher education beginning in 1956, even if only the present proportion of those of college age enroll in our institutions of higher education. It is consequently necessary in basic planning for higher education to keep the fat years continually in mind, even though serious adjustment may be necessary in the lean years ahead.

There is one other contrast involving the long-range years that seems to me imperative. At the present time we are engaged in a twofold struggle: one against the Communist state and its satellite; the other against communism as an idea of government and of life. The first is a contest of military strength; the second is of ideas and ways of living. These two struggles must be waged concurrently. One of our greatest dangers is that we shall let the immediate military conflict so curtail the long-range conflict in ideology that we shall lose the latter and hence lose all, regardless of the outcome in terms of military might.

It may be assumed that we must spend all of the 30 or more billion dollars to increase our military arms. But if so, we should be spending almost as much to maintain the strength of the body and mind of democracy. Yet at the present time we are spending only a few million to win the war of ideas. Colleges and universities have a tremendous challenge in keeping in the forefront the necessity of victory in the war of ideas.

The University of Minnesota pattern of

INVESTMENT MANAGEMENT

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THE UNIVERSITY OF MINNESOTA HAS been generously endowed with trust funds that totaled $36,220,217 as of June 30, 1950. These funds are divided into two major classifications as follows:

Permanent Fund	$25,807,029
Endowment Funds	10,413,188
TOTAL	$36,220,217

The permanent university fund has been accumulated from two sources: (1) royalties on iron ore, and the sale of land and timber from the lands granted by the United States for the endowment and support of the university; (2) 10 per cent of the occupation tax on iron ore mined in the entire state since Nov. 4, 1922.

The permanent university fund is administered by the state board of investment consisting of the governor, treasurer, auditor, attorney general, and one regent of the University of Minnesota. The Minnesota legislature has limited the eligible investment media to U.S. government bonds, state bonds, and bonds of Minnesota political subdivisions.

The university's endowment funds, which total $10,413,188, include 177 endowment funds. The gifts have ranged in size from $5 to the Mayo Foundation of $3,026,301. The assets of these 177 endowment funds are administered by the board of regents of the university.

The duplication of effort inherent in an attempt to manage individually the assets of 177 endowment funds of such range is readily apparent. A group investment fund was instituted in 1933. The cash balances from maturities, sale of securities, and gifts are transferred quarterly from all funds to the group investment fund. Eventually all endowment assets will be commingled. All purchases of securities are made in the group investment fund, which is the fund actively managed.

The four fundamental investment management concepts to be considered in this article are (1) investment management responsibility; (2) investment policy; (3) selection of securities; (4) investment reserves.

The development and application of these concepts at the University of Minnesota are presented here.

INVESTMENT RESPONSIBILITY

The first fundamental decision is the assignment of the responsibility to initiate recommendations for the purchase and sale of securities from the endowment funds. Possibly the best single source of current information relative to the assignment of investment management responsibility is the manuscript for Chapter XX of the "Manual on College and University Administration." The manual is being prepared by a national committee with T. E. Blackwell, treasurer of Washington University, as editor. With regard to the responsibility to initiate recommendations for the management of funds, the suggestions included may be summarized as follows:

"While the makeup of the finance committee is of greater consequence than the size of the fund in determining whether a full-time investment officer is needed, it is suggested that, in general, a fund of less than $5,000,000 cannot afford one while a fund over $10,000,000 cannot be adequately operated without one.

"These limits are selected on the theory that not more than 10 per cent of income should be expended for the management of funds in excess of $1,000,000, and thus with income in the 3½ to 4 per cent range, the amount expendable on between one and five million ($3500 to $20,000) will purchase more continuous professional service from a trust company or investment counsel than can be had in one full-time officer with a minimum staff.

"The area between five and ten million dollars would be subject to de-

Investment Management Concepts at University of Minnesota

1 **Investment management costs should not exceed 10 per cent of investment income in funds in excess of $1,000,000, and investment management costs must be measured in combination with investment results.**

2 **A written statement of investment policy provides the cornerstone and the framework for the investment program. The tendency toward inflation makes a proportion of equities of less than 15 per cent appear too conservative. A proportion of common stocks in excess of 35 per cent appears too great unless adequate reserves are available.**

3 **Selection and maintenance of quality securities is the single most important investment management function. An objective based upon the University of Minnesota experience is that 95 per cent of bonds should be rated A or better in terms of Moody's ratings, and 95 per cent of stocks should be rated B or better in terms of Fitch's ratings.**

4 **A principal and income reserve should be provided to ensure the inviolability of the principal of the fund and the maintenance of the level of earnings. The reserve objectives at the University of Minnesota are a 5 per cent principal reserve, and a 3 per cent income reserve, or a total reserve of 8 per cent.**

termination on the basis of personnel, including trustees, at hand.

"It cannot be repeated too often or emphasized too strongly that the cost of investment management, whether direct or through counsel or trusts, can be measured only in combination with investment results."

The University of Minnesota, with a fund of $10,000,000, has an investment department with an annual expenditure of $12,800. The annual expenditure of $12,800 for the investment department includes the investment counsel, securities analyst, secretary, investment services, and supplies. The annual expenditures for investment management are less than 5 per cent of the income from investments.

The valuable criteria from the manual being prepared in the decision as to the assignment of investment responsibility are: (1) that investment management costs should not exceed 10 per cent of investment income in funds in excess of $1,000,000, and (2) that investment management costs must be measured in combination with investment results.

INVESTMENT POLICY

A prime function of the person or firm assigned the investment responsibility is to recommend an investment policy. A written statement of investment policy approved by the investment committee and by the full board of trustees or regents provides the cornerstone and the framework for the investment program. The three factors considered in the development of the investment policy at the University of Minnesota were: (1) economic outlook; (2) relative yields, and (3) experience of other institutions.

The economic outlook may be summarized tentatively as follows: (1) The decision to prepare for war, the federal fiscal and monetary policy, and the position and productivity of labor introduce an inflationary trend in the economy; (2) in our highly geared economy, the level of business activity may change quickly and without warning.

The relative yields available are approximately as follows:

	Per Cent
U.S. govt. bonds	2.25 to 2.50
Corporate bonds	2.60 to 2.90
Preferred stocks	3.60 to 4.00
Common stocks	5.00 to 6.00

Quality common stocks are available to yield more than twice as much as quality bonds. The proportions of investment media spelled out in the statement of investment policy will control to a large degree the return produced by the invested funds.

Educational institutions with large endowment funds that have held or invested in common stocks over a long period of years have recently tended to invest from 35 to 55 per cent of their assets in terms of market value in equities. The successful investment experience of these institutions attests to the soundness of their investment policies.

One outstanding reason that it is sound for these institutions to hold a larger proportion of equities is that the quality stocks that have been received as gifts or purchased and held over a long period of years have increased in value and in income produced to provide an increase in principal from sales made, and a very favorable rate of return on the remaining carrying value. In addition, the substantial margin that exists between book value and market value provides a cushion against possible losses in other sections of the portfolio. These institutions are in a far sounder position to hold 50 per cent in common stocks than an institution that begins to purchase common stocks at high market levels and that is pressed for income so that no reserve may be set aside.

POLICY RESTATED IN 1949

The first statement of University of Minnesota investment policy was made in 1936. The policy was restated in 1949. The present investment policy is that common stocks may be 25 per cent in terms of book value. If the common stocks in terms of market value exceed 35 per cent, they will be sold to 30 per cent. If common stocks in terms of market value decline to 15 per cent, they will be purchased to 20 per cent.

The present investment position in the group investment fund is as follows:

	Book Value	*Market Value*
U.S. bonds	20%	18%
Corporate bonds	43	40
Preferred stocks	12	12
Common stocks	25	30
TOTAL	100%	100%

The University of Minnesota, to provide a partial hedge against a change in interest rates, amortizes 10 per cent of the cost or book value of preferred stocks over a 20 year period. For example, if a 4.00 per cent preferred stock is purchased at par, 3.50 per cent income is taken as current income and 0.50 per cent is used to amortize the book value. In a 20 year period the book value of the preferred stock is reduced to 90, and the effective return would be 4.44 per cent.

The tentative investment policy conclusion is that in view of the economic outlook for a tendency toward inflation, a proportion of common stocks of less than 15 per cent appears unduly conservative, and a proportion of common stocks in excess of 35 per cent appears too great unless there are substantial and adequate reserves. This investment policy conclusion is subject to review with either fundamental economic change or substantial increase in available investment reserves.

SELECTION OF SECURITIES

Possibly the single most important investment management decision is the relative emphasis to be placed on quality, yield and market appreciation in the selection of securities. The decision at the University of Minnesota is to place foremost emphasis on the selection and maintenance of institutional investment quality securities. These securities when selected are purchased for long-term, continuing investment for the income they will produce for the university.

The analytical framework developed to select the securities for purchase is an industry approach. The relative outlook for the industry is considered in terms of the fundamental factors at work in the economy at the time the study is made. The historical record of the major companies in the industry are compared on the basis of the following statistical ratios or per cents:

PER CENT EQUITY*
Increase from 1937 to 1949
Equity*
Plant
Sales
Earnings per share*
Dividend per share*
Market—low to low, and high to high
Depreciation to sales
Profit margin
Net income to sales*
Coverage of dividend—period of years

*Additional weight is given.

A median standard is observed for each ratio. The companies are ranked

on the basis of the number of above-standard ratios.

From this objective ranking and with subjective consideration of any other significant factors, the top companies are selected for long-term investment. An investment position in terms of market value is recommended to the investment committee. The investment committee approval stands as the program for that industry until a subsequent industry study.

An annual report is made of the security transactions and of the securities held. The securities held are rated with Moody's rating for bonds and Fitch's rating for stocks as convenient measuring devices. The board of regents can see at a glance the relative quality of the securities held, and the change in quality from the previous year. As of Dec. 31, 1949, the securities held by the University of Minnesota were rated as shown in the upper right hand corner.

Ninety-eight per cent of the bonds held were rated A or better. Ninety-six per cent of the stocks held were rated B or better.

Selection of quality securities for long-term investment is considered the single most important investment management function. Maintenance of quality securities by liquidation of substandard securities received as gifts is a corollary of this proposition.

Ratings of Securities Held by University of Minnesota

Moody's Rating	*Bonds per Cent*	*Bonds Cumulative per Cent*	*Fitch's Rating*	*Stocks per Cent*	*Stocks' Cumulative per Cent*
Aa or better	84.0	84.0	BBB or better	60.2	60.2
A	14.3	98.3	BB	32.0	92.2
Baa	8.0	99.1	B	4.7	96.9
Ba or below	9.0	100.0	CCC or below	3.1	100.0

INVESTMENT RESERVE

The times in which we live emphasize the need for adequate reserves. Principal reserves are provided from the profit on sale of securities. Income reserves are provided from a credit of a portion of income.

These two types of reserve are held in one fund at the University of Minnesota, the group investment reserve fund. The objective of this fund is 8 per cent of the invested principal as follows: principal reserve, 5 per cent; income reserve, 3 per cent; total objective, 8 per cent. A 5 per cent principal reserve of the total fund would provide a 20 per cent principal reserve against the common stocks held.

A level of income distribution is maintained for a period of years. Maintenance of this level tends to simplify budget planning. The income in excess of the distribution level is credited to the reserve.

A nucleus of the reserve is invested in U.S. savings bonds, series F, to provide a liquidity factor. The balance of the reserve assets are commingled in the group investment fund. Adequate reserves provide an insurance factor essential to successful investment management.

Any investment pattern or program must be subject to continuing review. This is particularly applicable to the investment management standards suggested in this article.

Continuing Survey of Building Costs Conducted by College and University Business

College	Function of Building	Type of Construction	Total Cost	Total Cubage	Cubic Foot	Contract Cost for				Approximate Wage Rate					Date of Contract Award
						Gen. Construction	Heating	Plumbing	Electrical	Electricians	Bricklayers	Masons	Plumbers	Carpenters	
State University of Iowa	Women's Physical Education	Reinforced concrete	$ 286,964	295,000	$0.97	$ 215,345	$49,650		$15,338	$2.18	$3.50	$3.50	$2.85	$2.25	June '50
						Temperature control $6431									
State University of Iowa	Library	Steel frame	1,546,272	1,270,000	1.28	1,231,735	222,807		80,100	2.18	3.50	3.50	2.85	2.25	Mar. '49
						Temperature control $11,630									
State University of Iowa	Dormitory	Reinforced concrete	329,554	272,000	1.21	285,474	32,780		11,300	2.18	3.50	3.50	2.85	2.25	Sept. '49
University of New Mexico	Classrooms	Reinforced concrete tile stucco	500,672	600,000	0.83	359,672	91,000		39,000	2.25	3.50	3.50	2.50	2.15	June '50
Western State College of Colo.	Health and Physical Education	Brick	382,000	700,000	0.54	300,000*	61,000*		Included in gen. contract	2.25	2.85	2.85	3.00	2.15	June '50
Northwestern Jr. Coll. & Academy	Girls' Dormitory	Fireproof	114,783	350,272	0.33	119,490	20,508		4,785	1.75	2.62½	2.62½	1.75	1.75	Sept. '49
St. Augustine's College	Science	Brick and steel	158,589	286,226	0.59	133,414	$ 8,584	$12,970	3,621	2.00	2.25	2.25	2.25	1.37½	June '50
Washburn Municipal Univ.	Student Union	Structural steel reinforced concrete	**235,000	311,160	0.76	183,248	27,771		8,808	2.25	3.00	3.00	2.37	1.92	July '50
University of Calif., San Francisco	Radiological Laboratory	Reinforced concrete	264,633	143,488	1.84	184,733	26,900	26,000	27,000	2.50	3.00	.....	2.50	2.22½	May '50
						Let under single contract									
Tulane Univ.	Men's Dormitory	Reinforced concrete, brick veneer over concrete block masonry	466,413	330,726	1.41	370,097	73,997		22,319	2.40	2.60	2.60	2.35	1.97½	Aug. '50
Albany State College	Men's Dormitory	Reinforced concrete & masonry	163,395	167,233	0.98	124,127	13,830	17,938	7,500	2.00	2.00	2.00	2.25	1.37½	Oct. '50
State Teachers Minot, N. D.	Physical Education	Brick	387,986	836,850	0.46	298,143	70,051		19,792	2.25	2.50	2.50	2.15	1.90	Mar. '50
State Teachers Minot, N. D.	Music Rooms	Brick	25,000	21,550	1.16	21,700	2,000		1,300	2.25	2.50	2.50	2.15	1.90	Feb. '50
State Teachers Minot, N. D.	Union Addition	Frame	60,619	140,580	0.43	49,797	7,601		3,221	2.25	2.50	2.50	2.15	1.90	Feb. '50

*Includes architect's fees; **Includes architect's fees, landscaping and utilities to building.

STADIUM *addition at University of Washington*

demonstrates new method of structural design

NELSON WAHLSTROM
Comptroller, University of Washington

THE UNIVERSITY OF WASHINGTON has developed an expansion program for its 40,000 seat football stadium that will keep abreast of seating needs without going beyond the ability of the community to support the enlarged football plant.

Plans have been worked out to provide an eventual 92,000 seat stadium, but the entire project will not be undertaken at once. As conditions require, we will enlarge the stadium, section by section, over a period of years by double-decking the present structure.

The first section, started last January, will add 15,000 covered seats in a choice location and also will provide covering for 5000 existing seats that are being rebuilt with permanent steel foundations. Six other additions, included in the master expansion plan, will be built as needed.

The section recently completed is located on the south side of the playing field, between the goal posts. Its huge cantilevered room is 400 feet by 150 feet, and the topmost seat is 168 feet from the playing field. Two winding concourses lead to the second deck to expedite the flow of traffic.

FINANCED BY BOND ISSUE

This grandstand addition will cost approximately $1,700,000. It is being financed as part of a $2,500,000 revenue bond issue that covers an addition to the Student Union Building as well as the stadium addition. The bond issue has been set up to be self-liquidating from student fees and stadium gate receipts over a 20 year period. However, estimates for the retirement were made on an ultra-conservative forecast. We expect the bonds to be retired well ahead of schedule with revenue from 10 per cent of the gate receipts, plus student fees of $3.50 per student per quarter.

The bond issue was handled by the First Washington Corporation of Seattle at a low net interest rate of 2.642 per cent.

The stadium addition is the biggest welding job ever performed in building structure. The welded construction was made possible through unique structural design originated by Sigmund Ivarsson, consulting engineer for the architects of the project, George W. Stoddard and Associates. By eliminating cumbersome gusset plates and rivets, the job has a sleek and streamlined appearance. The welding process eliminated about 200 tons of steel, yet it is 33 per cent stronger than recommended for stresses in welds in tension by American Welding Society specifications.

THOUSANDS OF DOLLARS SAVED

In addition to its strength and improved appearance, the welding process eliminated several weeks of construction, as well as saving about $40,000 by using less steel. As construction progressed, all main welds were gamma-rayed to discover any faults.

The stadium addition presented unusual problems in construction. Two important factors were to provide maximum coverage for spectators with a minimum amount of ground space and a minimum of supporting columns that might obstruct the view. Ten 12 to 14 inch steel struts were placed between the roof and the second deck of the addition to make the structure rigid. It was hoped that the cantilevered roof would eliminate the need for bracing in the spectators' line of vision. However, models tested in a university wind tunnel showed that the roof without struts would move slightly under pressure from unusually strong wind or heavy snow load. Engineers agreed that such movement was not a danger to the structure, but that it might have a bad psychological effect on spectators.

SYSTEM FOR ISSUING TICKETS

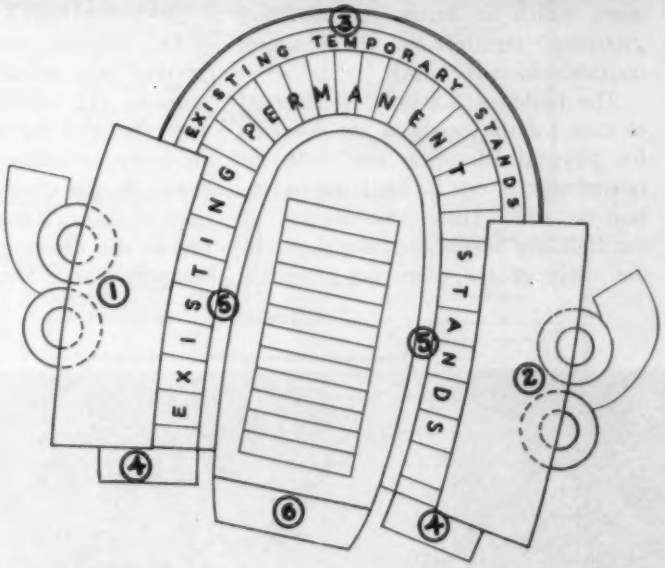
With 15,000 additional seats available, all season ticket holders, regardless of priority, are assured of good locations. Because every rabid football ticket purchaser wants a seat on the 50 yard line, the university has developed a system that has worked successfully the past few years in the issuing of season tickets. It sounds a bit complicated, but it has avoided bloodshed in the ticket office.

Briefly, the plan is based on two main categories: alumni and nonalumni. All paid-up members of the alumni association who make application before July 20 are entitled to preferential season ticket allocations, with the best ones going to those who have held season tickets for the longest period of years. After the alumni are taken care of, nonalumni purchasers are allotted tickets, on priorities based on the number of past consecutive years such purchasers have been buying season tickets.

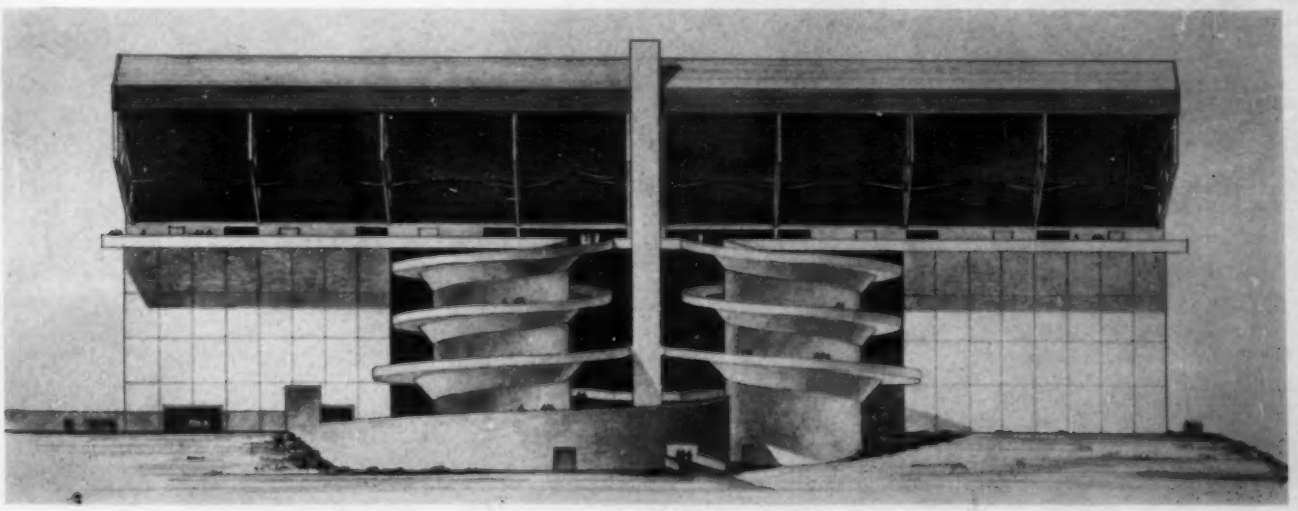
When we committed ourselves to the stadium expansion, the ever-present problem of parking also had to be taken into consideration. To overcome an existing deficit in parking space and to handle the added capacity of the stadium, we have pro-

vided parking space for an additional 5000 cars by filling in land adjacent to the stadium. This gives us facilities for parking 10,000 cars within half a mile of the stadium.

Expanding enrollment and ever-increasing alumni and public support made the stadium improvements necessary. When the structure was first built in 1920, the university had an enrollment of 5800 and Seattle had a population of 300,000. Today, university enrollment is more than 15,000 and Seattle's population is almost half a million. On the basis of enrollment and population forecasts, we anticipate the second addition of another 15,000 seats will be required by the early 1960's, at which time we expect to have the major portion of the present bond issue retired.



Section-by-section plan for additions to the stadium. Addition No. 1 has been completed; other additions, in order of their priority numbers, will be built later.



Two winding concourses lead to the second deck to expedite the flow of traffic.

PHYSICAL EDUCATION *plant at Mount Holyoke*

also serves recreational needs of girls

ROBERT C. DEAN
Perry, Shaw & Hepburn, Kehoe & Dean, Architects, Boston

THE NEW PHYSICAL EDUCATION AND Recreation Building dedicated at Mount Holyoke College last summer is situated at the end of Upper Lake at the northern extremity of the campus. Surrounded by the playing fields, it is near the new residence hall, Lakeside, with which it forms an attractive grouping terminating the campus composition at the north.

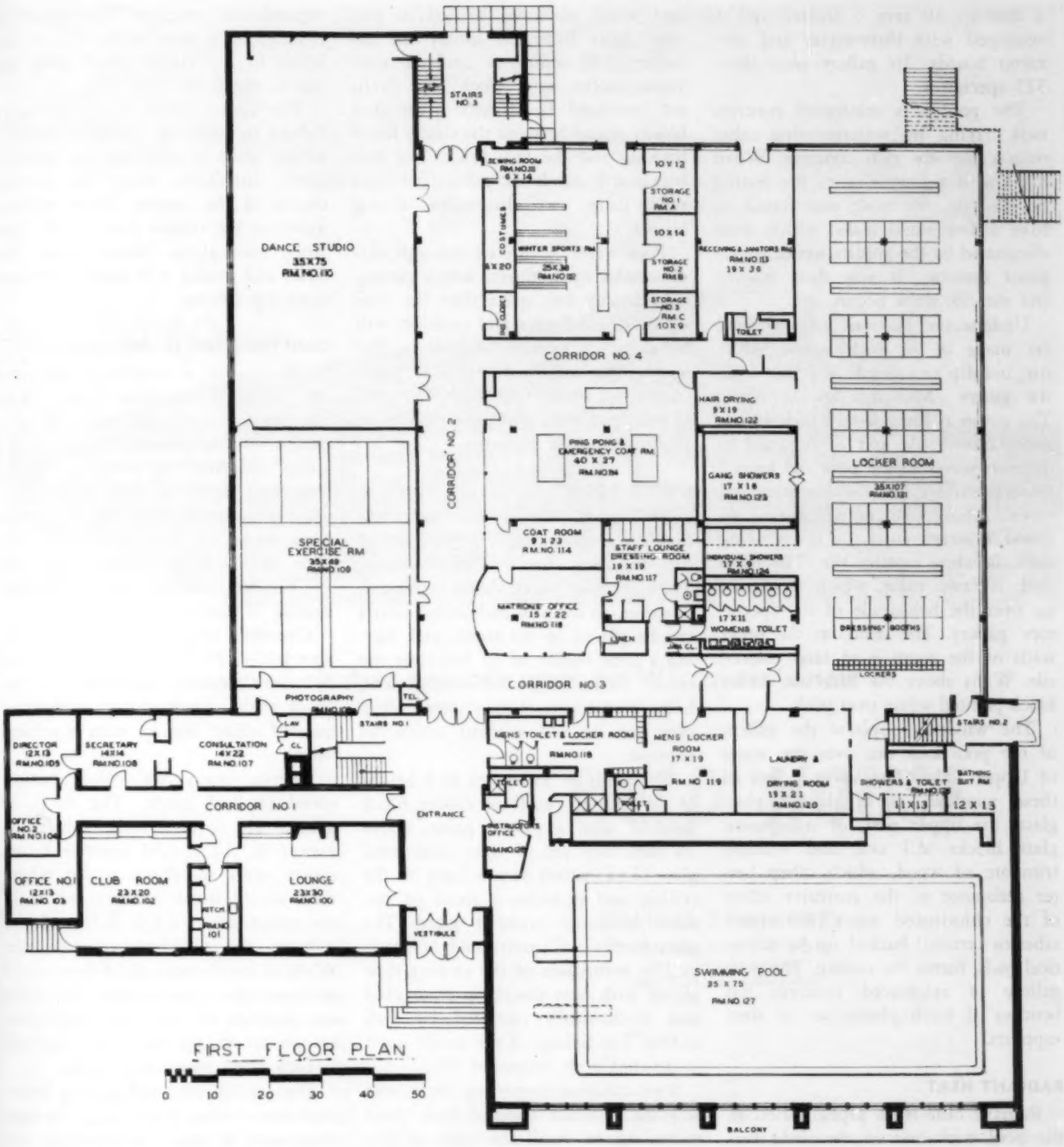
The building not only is designed to care for the needs of the students for physical education but is so arranged that it can be used for recreation as well. These two aspects of the building should be considered in the study of the plans on page 33.

As a physical education building, the locker room and its appurtenances are the heart of the building, from which the pool, the sports room, and the playing fields are directly accessible.

UNDER MATRON'S SUPERVISION

On entering the building, either at the front or at the playing field entrance, the student comes under the supervision of the matron's office from its bowed window on the main corridor. At the matron's office, the student is issued a towel and a sheet to use in the dressing rooms or shower compartments. She then enters the locker room through a double baffle door and finds there her own private locker, permanently assigned. After she removes her athletic clothes from the locker, she takes the nearest unoccupied dressing booth. If she is going for a swim, she goes first to the nearest unoccupied dressing booth, removes her street clothes, and, using the sheet as a bathrobe, puts her clothes in her locker. After a soap bath in the pool showers, she goes to the bathing suit room, where a fresh bathing suit is issued to her. From the bathing suit room, passing through the foot bath on the way, she enters the pool.

Physical Education and Recreation Building, with swimming pool, at Mount Holyoke College, South Hadley, Mass.



First floor plan of the Physical Education and Recreational Building. The sports room on the second floor is so constructed that the trusses clear the floor by 20 feet to allow for basketball games.

Should the student wish to engage in sports other than swimming, she puts on the proper uniform in the dressing booth, stores her street clothes in her locker, goes to the sports room upstairs or leaves through the winter sports room to the playing fields. Should she, on entering the building, wish to confer with the staff, she finds the administrative offices to her left off the lobby.

The lounge and the club room are provided in the same section for the use of students either for entertaining or for meetings of the athletic association and the outing club.

One of the offices is for the consultant, who advises those needing corrective exercises and directs those who are unable to participate in the general sports program or who have some physical deficiency that may be improved by special exercises. Off the main corridor and connected with the consultant's room is a special exercise room where girls may exercise or play games suited to their needs. Back of the special exercise room is a dance studio for modern and folk dance classes. Across the corridor is a sewing room, where costumes can be made and cared for. In the basement are archery ranges and bowling alleys, and on the second floor are the pool gallery and the sports room.

SWIMMING POOL

The swimming pool measures 75 by 35 feet, with a depth graduating from

4 feet to 10 feet 3 inches, and is equipped with three-meter and one-meter boards. Its gallery seats about 325 spectators.

The pool is a reinforced concrete tank having no waterproofing other than extremely rich concrete. When filled with water prior to the setting of the tile, the tank was found to have a few small leaks, which were eliminated by the application of waterproof cement. It was then drained and the tile work begun.

Underwater portions of the pool are made of ¾ inch square white tile, nonslip to a depth of 2 feet from the gutter. Markings are in black. The gutter is lined with 1 inch square slate colored tile and is designed to dampen waves in the pool and keep a smooth surface on the water at all times. Above the gutter, the curb, raised 2 inches from the surrounding deck, is white nonslip tile. The main deck is fawn color, which is carried up over the balustrade of the spectators' gallery. The dado on the other walls of the room is of sand colored tile. Walls above the dado are cinder block painted white over pink.

The windows opposite the gallery of the pool look out over the water of Upper Lake. The lower 7 feet of these windows is of double plate glass; the upper part, of transparent glass blocks. All sash and window trim are of wood, which offers better resistance to the corrosive effect of the chlorinated water. Perforated asbestos cement, backed up by acoustical pads, forms the ceiling. The pool gallery of reinforced concrete has benches of birch planks set on steel supports.

RADIANT HEAT

Radiant heat from pipes buried in the pool deck and in the dado surrounding the pool warms the swimmer. The temperature of the pool water and the radiators, which run in a long line under the large windows, also furnish heat to the swimming area. Tempered air that can be controlled prevents the gallery from becoming overheated. The relatively low air temperature, together with the radiant heat near the swimmers, provides a more comfortable condition than had been the standard in the past.

The roof of the swimming pool is carried on 30 inch steel girders that are covered with a troweled-on mastic to prevent condensation and corrosion. These steel girders carry wood joists and wood planking, treated to prevent decay from the anticipated humidity. The ceiling is insulated with vaporproofed rock wool. The walls are insulated by 2 inch foam-glass blocks placed between the cinder block backing and the face brick. The diving board stands of galvanized steel pipe carry two laminated diving boards.

Pool water is filtered through diatomaceous earth filters, which occupy considerably less space than the conventional sand filter and probably will be easier to operate and clean. The water is purified by chlorination, hypochlorite of lime being used. The pool is equipped with underwater lights to illuminate water pageants.

SPORTS ROOM

The sports room is so constructed that the trusses clear the floor by 20 feet to allow for basketball games. These trusses have been arranged, however, so that six badminton courts can be placed in the room, each having a clear height of 30 feet over the court. Thus, by careful arrangement, badminton courts of the championship type can be had without additional expense.

The walls of the room to a height of 14 feet are built of cinder block finished with a plastic paint; above 14 feet, they are of light directional glass block, which directs light on the ceiling and provides a room of unusual brilliance without glare. The glass blocks are interrupted at intervals by ventilators of the awning type glazed with heat absorbing plate glass and mechanically operated by pull chains. The ceiling of the sports room is covered with acoustical tile.

Steel columns supporting the trusses and the roof are exposed from floor to ceiling, as is all the steel in this room. The trusses and other steelwork, painted a light gray, give an effect of lightness and grace.

This room is ventilated mechanically by exhaust fans at each of the four corners and by air diffusers in the ceiling. It is heated by unit heaters that temper the air supply and by a line of radiators that is carried completely around the room directly beneath the glass block.

This room, both in its construction and in arrangement of glass area, is unique. The maple floor is laid on wood screeds over concrete. A space of 2 inches around the perimeter of the room allows the wood floor to expand and contract. This space is covered by a steel angle that is fastened to the cinder block wall but not to the floor.

The sports room is artificially lighted by high-bay industrial fixtures, whose glare is softened by indirect lights distributed along the bottom chords of the trusses. These indirect lights on the trusses shed a soft light when used alone. Hooks along the walls and trusses will support decorations for dances.

CONSTRUCTION IN GENERAL

The frame is reinforced concrete up to the second floor level. Floor construction is of grid slab. All roof construction is of wood joists carried either on steel or concrete beams. Structural steel is not fireproofed, since its location is confined to spaces high above the floor where there is little likelihood of fire ever reaching it. Bonded built-up tar and gravel roofing is used throughout.

Common brick from the Holyoke area laid in Flemish bond and backed by cinder concrete block form the exterior walls. Exterior trim is of wood painted white; interior trim is pressed metal.

Interior doors are either hollow metal or flush birch. The floors in general are covered with asphalt tile except in the special exercise room, sports room, and dance studio, where they are of maple constructed as in the sports room. The floors of the showers are unglazed ceramic tile. Walls of the showers and toilets are of structural glazed facing tile. The walls and ceilings of the club room and lounge are of plaster, with one wall in each room paneled in birch.

The cost of the building was lower than that of other buildings of its type constructed recently. Wherever it was found that customary practices called for either materials or methods more expensive than were warranted, those practices and methods were abandoned and others substituted which more directly answered the problem of the particular building. Nothing of appearance or quality was sacrificed, but many new and ingenious features were introduced to make this building an example of the forthright solution of a complex problem.

Total cost of the building was $790,000, or $0.58 per cubic foot. The cost of the building, excluding architect's fees, furniture, roads, and landscaping, was $690,000.

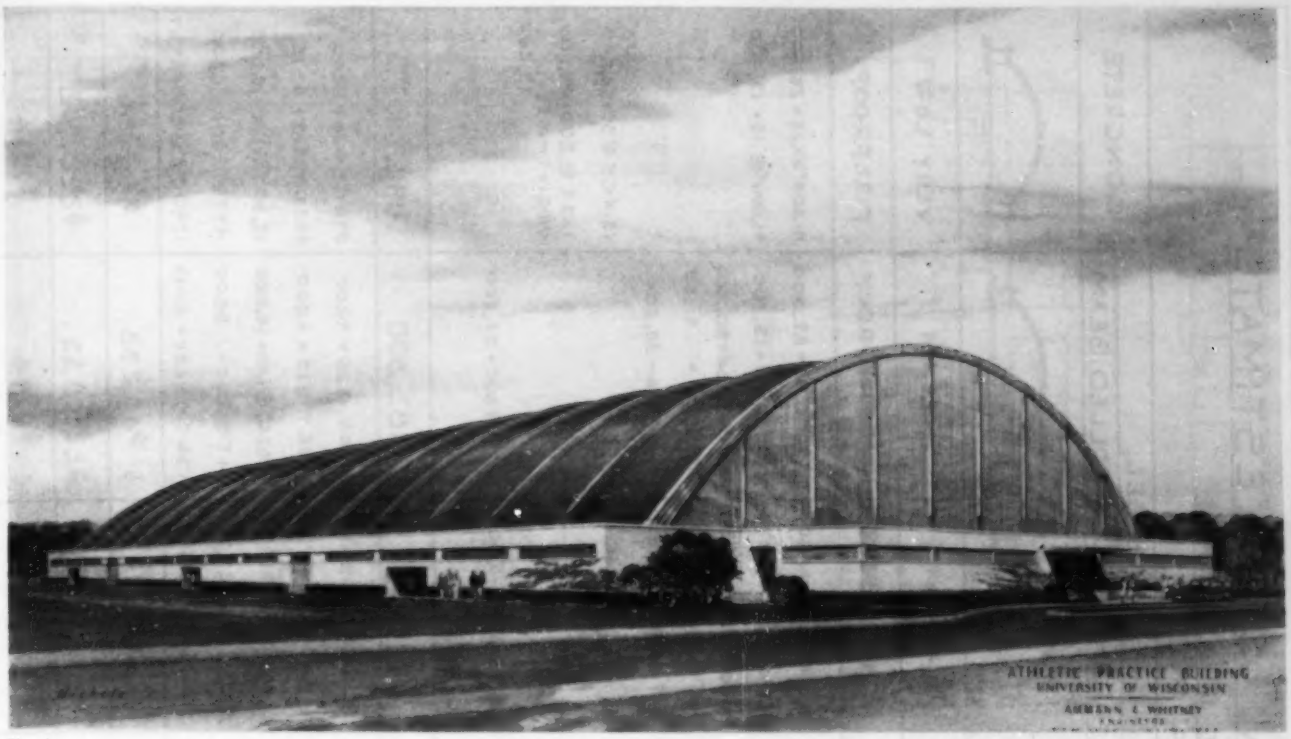


Fig. 1

Long-span roof studies precede work on Wisconsin's new

FIELD HOUSE

CHARLES S. WHITNEY
Partner, Ammann & Whitney
Consulting Engineers
New York and Milwaukee

PLANS HAVE BEEN PREPARED FOR AN athletic practice building for the University of Wisconsin with a clear floor area 200 feet wide and 400 feet long. The clear height is 61 feet and 9 inches at the center line and 15 feet at the side walls. The use of the building will be confined to indoor practice by the various teams with provision for an occasional track meet by the use of movable bleachers.

Showers, locker rooms and other necessary accommodations are provided in a two-story structure at the east end of the main arena. The field house is located in a large tract of land that is being developed for outdoor practice and baseball games. The general plan of the building is shown by Figure 2. Figure 1 is a preliminary perspective showing the general appearance, made before the final plans were fully developed.

In order to determine the most suitable construction for the long-span roof, detailed estimates were made of the cost of six different types in timber, steel and reinforced concrete. They include only those items that are subject to variation with the different types. The types considered are as follows:

Type A, Wood Laminated Arches, consists of laminated glued timber arches 18 feet on centers supporting wood joists 24 inches center to center with 1 inch wood sheathing, insulation and roofing.

Type B, Wood Bowstring Trusses, has bowstring timber trusses 16 feet on centers, wood joists, 1 inch wood sheathing, insulation and roofing. The trusses are composed of a laminated timber curved top chord with a horizontal timber bottom chord.

Type C, Wood Arch Trusses, is the most economical timber construction and has 8 foot deep arched trusses on 28½ foot centers braced with timber subtrusses carrying wood rafters, 1 inch wood sheathing, insulation and roofing. This type has been used by the U.S. Navy for large blimp hangars.

Type D, Steel Arch Trusses, is framed with prefabricated steel arched trusses. In order to utilize these trusses and provide the necessary vertical clearance of 15 feet at the side wall of a 190 foot span, it is necessary to support them on reinforced concrete buttresses.

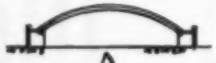
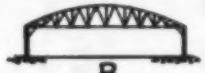
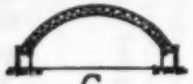
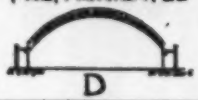
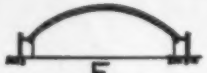
These trusses were designed for a live load of 20 pounds per square foot. In order to increase their capacity to 30 pounds as required by the Wisconsin state building code, the fabricator

AMMANN & WHITNEY
CONSULTING ENGINEERS
76 NINTH AVE, NEW YORK

COMPARATIVE STRUCTURAL COST ESTIMATE

U. OF W. PRACTICE FIELD HOUSE

(190' SPAN, 400' LONG)

	ITEM \ FRAMING TYPE	WOOD			STEEL		CONCRETE
		LAMINATED RIB	BOWSTRING	ARCHED TRUSS	ARCHED TRUSS "PREFABRICATED"	ROLLED BEAM	
	SECTIONS	 A	 B	 C	 D	 E	F
	MAINTENANCE	HIGH	HIGH	HIGH	MEDIUM	MEDIUM	VERY LOW
	FIRE RATING	NON-FIREPROOF	NON-FIREPROOF	NON-FIREPROOF	NON-FIREPROOF	NON-FIREPROOF	FIREPROOF
SUPERSTRUCTURE	ROOFING	88,000#@.25=$22,000	82,000#@.25=20,500	97,600#@.25=24,400	91,840#@.25=24,400	88,000#@.25=22,000	91,600#@.25=22,800
	INSULATION	88,000#@.15=$13,200	82,000#@.15=12,300	97,600#@.15=14,640	91,840#@.15=13,776	88,000#@.15=13,200	91,600#@.15=13,700
	SHEATH, PURLINS RAFTERS, BRIDGING	98.5M@180=$19,150 97M@180=$17,500	150M@180=27,000 95M@180=17,100	67.6M@220=14,850 101.5M@180=18,300	91,800#@.30=27,600 64T@350=22,400	88,000#@.35=30,800 31T@300=9300	
	SUBFRAMING, BRACING		35M@350=12,300	136M@280=38,200	64T@350=22,400	185T@300=55,500	
	CONCRETE						1514 C.Y.@35=52,990
	REINFORCING STEEL						123T.@200=24,600
	FORMWORK & TRAVELER						ORIG.+7 MOVES= 78,200
	RIB FRAMES	169M@625=105,000	74,000#@1.37=104,200	111M@450=50,000	250T@300=75,000	175T@300=52,500	
	ADDED WALL		29,750#@2=41,500	9440#@2=18,000			
	TOTAL	$176,850	$234,900	$178,390	$184,136	$183,300	$192,290
SUBSTRUCTURE	CONC. ABUTMENTS	320C.Y.@20=6400		510C.Y.@20=10,200	415C.Y.@20=8300	460C.Y.@20=9200	592C.Y.@20=9200
	CONC. FOOTINGS	405C.Y.@15=6075	150C.Y.@17=2550	320C.Y.@15=4,800	526C.Y.@15=7890	320C.Y.@15=4800	425C.Y.@15=6375
	ABUTMENT FORMWORK	1700#@1.00=17,000		16,980#@1.00=16,980	21,900#@1.00=21,900	14,820#@1.00=14,820	15,300#@1.00=15,300
	REINFORCING STEEL	99T@200=19,800	3.5T.@200=800	44T@200=8,800	128T@200=25,600	44T@200=8800	49T@200=9,800
	EXCAVATION	2000C.Y.@2.30=4600	345C.Y.@2.30=800	1136C.Y.@2.30=2,613	2170C.Y.@2.30=4990	1136C.Y.@2.30=2613	1290C.Y.@2.30=2967
	TOTAL	$53,875	$4150	$43,393	$68,680	$40,233	$46,282
	TOTAL COST	$230,725	$239,050	$221,783	$252,816	$223,533	$238,572
	UNIT COST (TOTAL PER SQ. FT.)	$3.04	$3.20	$2.92	$3.32	$2.94	$3.14

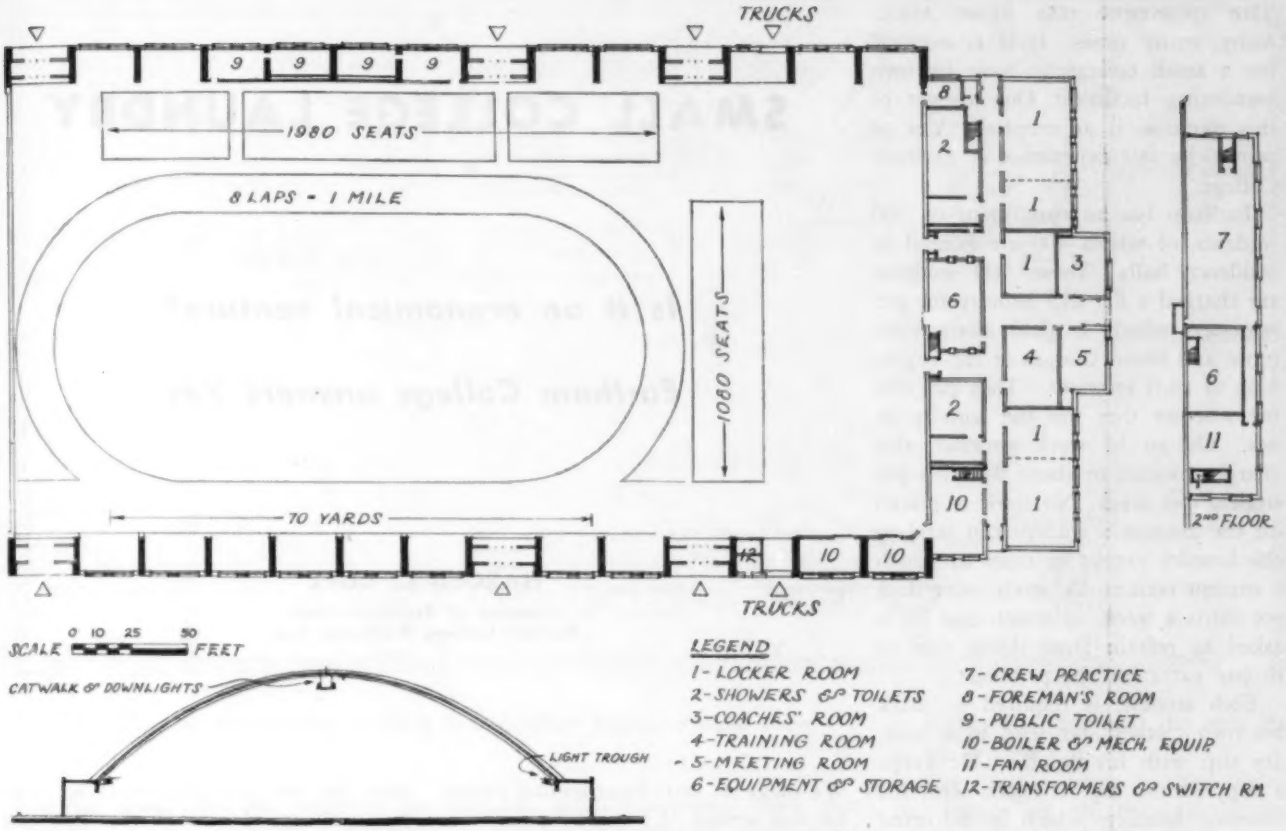


Fig. 2. First floor plan of field house, which also shows rooms in two-story section at east end of arena.

proposed that the arches be placed at 13½ foot centers. The estimate of cost is based on that spacing.

A detailed analysis was made of the stresses in these trusses when spaced 13½ feet on centers and it was found that they do not have sufficient strength if subjected to a live load of 30 pounds per square foot distributed so as to produce maximum stresses in the various sections. A building of this importance to be used for public assembly should be designed for such loading conditions and not based on arbitrary location of live load as used for these trusses. An allowance was therefore made for the cost of reinforcing the trusses where necessary. The 13½ foot spacing makes the space between them unavailable for storage of bleachers and anything but minor equipment.

Type E, Steel Rolled Beam Arches, is the cheapest type of steel roof for this building and consists of arches built of rolled beams at 28½ foot centers, steel beam purlins, sheet steel decking, insulation and roofing, concrete abutments and footings. The steelwork is not encased in fireproofing.

Type F, Reinforced Concrete Arched Shell, is a smooth reinforced concrete arched shell with concrete ribs spaced 28½ feet. The ribs project about 10 or 12 inches below the shell and about the same distance above. Insulation and roofing cover the shell and ribs so that no concrete is exposed to the weather. This type is economical for a building 400 feet long because the formwork for the roof can be used seven times.

REACH CONCLUSIONS

A summary of the cost estimates is given in the table on the opposite page. The following conclusions were reached:

The cheapest timber construction is about the same in first cost as is steel for this building. Maintenance cost, depreciation and insurance would be much higher.

The most economical and satisfactory steel construction is Type E with arches built of rolled beams; it should therefore be considered in comparison with Type F. If protected by fireproofing, Type E will cost more than Type F.

Type F in reinforced concrete has numerous advantages over Type E and it should actually result in less cost over a period of years, although the first cost appears slightly higher. The indicated differential in first cost might be about 2 per cent of the total cost of the building, but the maintenance cost will be lower than that of steel, which will need repainting and will have a greater tendency to cause condensation. The use of concrete also removes the fire hazard and improves the appearance of the interior of the building. It will present a clean, smooth ceiling, free of trussing and bracing, and will make the lighting more effective.

The reinforced concrete arched shell construction, Type F, is most suitable for this building. While the estimates are based on a clear span of 190 feet, the cost of Type F construction per square foot of floor is not greatly affected by increase in span length, and the advantages over other types in its use increase with longer spans.

Indirect lighting will be provided for the arena by floodlighting the whole ceiling from coves along the side wall. More intense illumination, where desired, will be effected by the use of direct units along a catwalk at the center of the roof.

The building has been designed by Ammann & Whitney, engineers, with Fitzhugh Scott and Fitzhugh Scott Jr. as associate architects, and Chauncey L. Chase, consulting mechanical and electrical engineer, under the direction of Roger C. Kirchhoff, state architect, and Harry Stuhldreher, director of athletics, University of Wisconsin.

SMALL COLLEGE LAUNDRY

Is it an economical venture?

Earlham College answers Yes

HAROLD C. COPE
Manager of Residence Halls
Earlham College, Richmond, Ind.

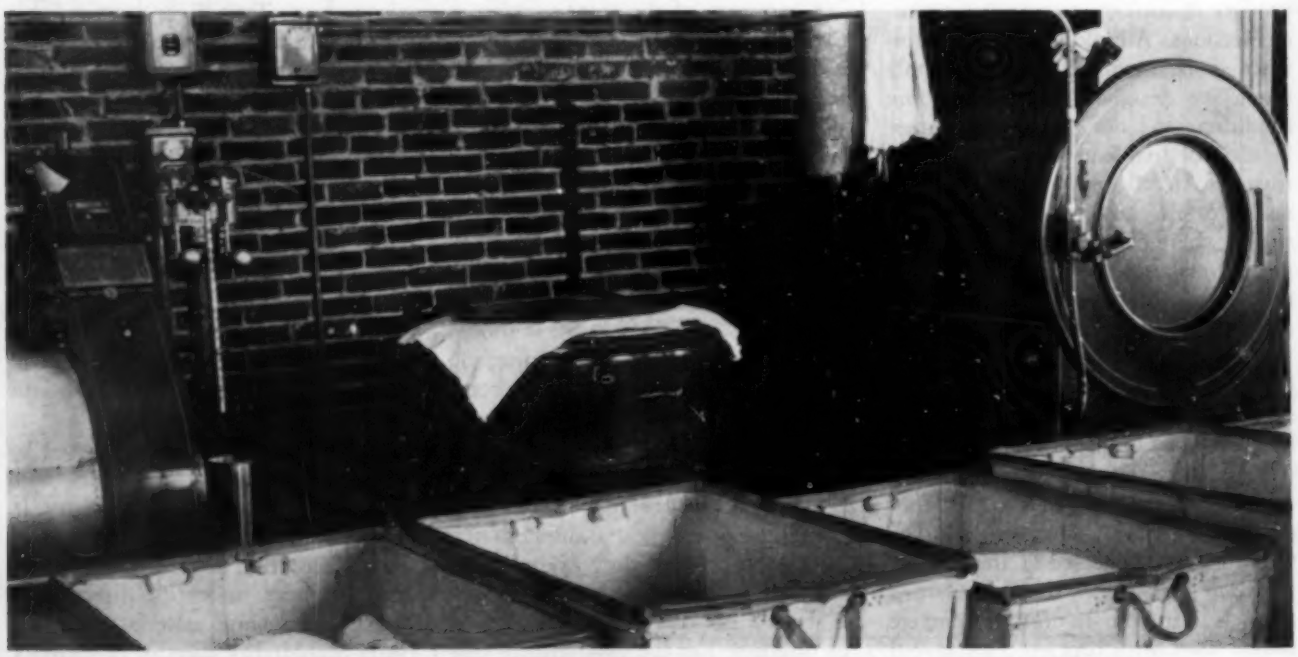
THE QUESTION HAS BEEN ASKED many, many times: Is it economical for a small college to have its own laundering facilities? Our answer to this question is an emphatic Yes, as proved by our experience at Earlham College.

Earlham has an enrollment of 700 students, of whom 400 are housed in residence halls. These 400 students are charged a flat $15 laundry fee per semester, which is paid along with room and board charges at the beginning of each semester. They pay this fee whether they use the laundry or not. On an 18 week semester, this charge amounts to about 84 cents per student per week. No limit is placed on the amount a student can send to the laundry except in cases in which a student continually sends more than six shirts a week, in which case he is asked to refrain from doing this or to pay extra for the privilege.

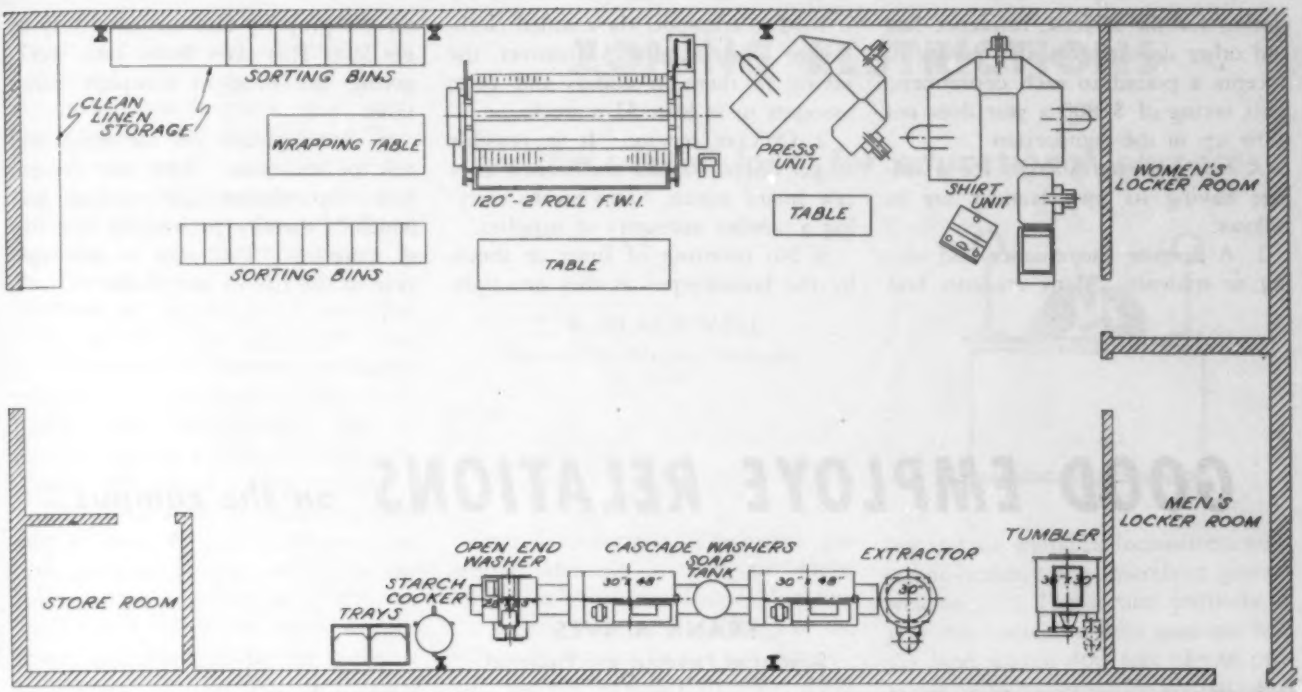
Each student is required to mark his own clothes and send in a laundry slip with his bundle. He keeps a copy of the slip to check with his returned laundry, which is delivered to his room. Everything is rough dried except shirts, girls' blouses and dresses, which are ironed on the presses.

Besides doing the personal laundry for students, we do the residence hall sheets (which the college furnishes), the kitchen towels, aprons and table cloths, all of the athletic department clothing, plus such things as mops or painters' cloths that need to be washed. We make an interdepartmental charge for this service of 3 cents a pound below commercial laundry charges. In addition to the aforementioned, we take in laundry from our veterans' housing unit and from faculty members who want to avail themselves of our service. For this service we charge about 10 per cent less than prevailing commercial laundry prices.

The question is asked: Does it not take 100 pounds of steam pressure? Yes, we need 100 pounds' steam pressure, but we have that from our central heating plant. When Earlham built a new centralized heating plant it was felt that it was more economical to produce 100 pounds' steam and transport it in small pipes rather than produce a lower pressure steam in large pipes, so the 100 pounds' steam is not produced merely for laundry purposes. Earlham would have this steam anyhow. This is true in many other colleges, so it is just a question then of having a laundry building. The



One section of Earlham's laundry showing washer, extractor, tumbler and canvas baskets.



Floor plan for the laundry building that Earlham hopes to build soon.

building itself does not need to be elaborate, but it should have ample cross ventilation.

Earlham now has plans for a new laundry building as the present location is not very satisfactory. A representative from a reliable laundry company helped us plan the accompanying layout. Inasmuch as we could not wait for the new laundry building to be constructed before purchasing new equipment, we have been buying it over the past few years and will move it to the new location later.

For a laundry capacity such as ours, the following pieces of equipment are needed. Approximate prices also are given.

30 by 48 washers (2)	$4,200
22 by 25 open-end washer (1)	1,000
30 inch extractor (1)	1,300
36 by 30 tumbler (1)	500
Large drying press (1)	750
Smaller drying press (1)	400
Two-girl shirt unit (1)	3,800
120 inch two-roll streamline ironer (1)	3,800
25 gal. starch cooker (1)	325
90 gal. soap tank (1)	120
Stainless metal truck (1)	160
Large platform scale (1)	150
10 bu. canvas baskets (16)	120
6 bu. canvas baskets (18)	270
TOTAL COST	$16,775

This equipment will last for at least 25 years, so actually it means a fairly small investment over that long a period. During this period there will be little maintenance, and most of it can be done by one of the college maintenance men. Complete instruction and operation booklets are sent along with each piece of equipment so it is seldom that a factory man has to be called in to do repair work.

Our laundry is operated five days a week. One man, who is the washer, works about nine hours a day. We have one head woman and six other women who work seven hours a day, five days a week. Depending on the load, these employes may work longer hours one day and shorter the next. The head woman is responsible for the actual running of the laundry. She decides on the flow of work and solves any minor problems that may arise.

The women sort all of the clothes for the washer and check each bundle of personal clothing against the slip the student has marked in order to make sure everything is included. They sort finished clothes, put them in bins, and wrap each student's bundle after rechecking it against the laundry slip to make sure the bundle is complete. The wrapping of each bundle is done with the student's own bath towel folded around the clothes and pinned together, with the laundry slip on top. We decided that the wrapping in paper was an unnecessary expense inasmuch as the bundle of clean clothes is placed in a hamper or basket and delivered the next day to the student's room.

Sheets, table linens, kitchen towels, and aprons are run through the flatwork ironer.

Our income and expense comparison at the end of the year is roughly:

Income		
400 students @ $30 per year	$12,000	
Interdepartmental credits	4,000	
Employes and outside guest receipts $45 per week	1,600	
	$17,600	
Expenses		
Wages		$9,500
Service charge (heat, light, water, steam and electricity)		3,300
Maintenance wages		200
Maintenance supplies and expense		50
Supplies and expenses		
6000 lb. soap @ 11½ cents	$690	
2800 lb. water break	280	
550 lb. starch	75	
100 lb. bleach	30	
Misc. items (shirt bands, press covers, pins, padding nets, etc.)	600	1,675
		$14,725

As can be seen from this comparison, there is between $2500 and $3000 left every year to apply toward the purchase of new equipment. Each year we spend about that amount on the replacement of equipment, as there had been no new equipment bought for 25 years. In addition, there is a net saving to the college on the interdepartmental charges. This year the laundry washed about 60,000 lbs. of

clothes for the athletic, residence hall and other departments at a saving of 3 cents a pound to each department. This saving of $1800 a year does not show up in the comparison.

A few other advantages for a college having its own laundry are as follows:

1. A definite convenience and saving to students. Many students find it hard to transport their soiled clothing to local laundries. Moreover, the saving to them in dollars and cents amounts to at least $1 a week.

2. Quicker service. It is possible to get linens washed and ironed on a few hours' notice. This means carrying a smaller inventory of supplies.

3. No counting of linen or sheets by the housekeeper as they are right on the property and are not likely to get lost. This saves hours each week, giving her time to complete other tasks.

4. Saves greatly on the wear and tear of materials. One can control how the clothes are washed and handled, thereby prolonging the life of materials. This adds at least one year to the life of our linens.

GOOD EMPLOYE RELATIONS *on the campus*

FRANK A. IVES
Director of Personnel and Placement
University of Oklahoma

SIGNIFICANT PROGRESS HAS BEEN made during the last 10 years in the business management of educational institutions. We have begun to realize that practices that have been accepted for many years by business and industry also are applicable to colleges and universities. Yet we find that many institutions are still 10 or 15 years behind business and industry in the employe relations phase of business management.

The employe is the most important asset with which management deals. Good employe relations must be based on a philosophy of fair and equal treatment for employes at all levels and must be practiced by supervisory personnel, beginning with the president. The institution that does not consider human relations and recognition of the individual to be as important as buildings, services and institutional prestige will find it difficult to achieve good employe relations. Larger schools occasionally have been charged with failure to recognize the individual needs and problems of their students. The school that practices a similar attitude toward its employes faces a real obstacle to further progress and efficient operation.

A number of studies have found a high correlation between employe satisfaction and operating efficiency. The skeptic may say, "Sure, we could provide the things that make employes happy if we had the money, but we are a poor educational institution." Let us examine some of the things that contribute to employe satisfaction.

What does the employe want when he applies for a job? He wants (1) a courteous reception; (2) a simple application form; (3) an interview without several hours' wait; (4) respect for previous training and experience; (5) a fair appraisal of his abilities, through the use of appropriate tests and questions, and (6) an adequate description of the jobs available.

Most of these things can be accomplished at little or no additional expense to the institution.

What does the employe want when he starts to work? He wants (1) a pleasant greeting, by name; (2) an introduction to other employes in the department; (3) assistance and accurate instructions when learning his new job; (4) to know his part in the over-all operation of the institution; (5) to understand the specific conditions of his employment; (6) to use his skills and abilities to the best advantage, and (7) to know that he will be reasonably sure of holding his job, as long as he does good work.

What does the employe want if he is to remain with the institution? He wants (1) to feel that he is a part of the organization; (2) an opportunity to advance in income, responsibilities and knowledge; (3) encouragement to suggest improved methods; (4) wages comparable to rates for the same work in other departments or local business firms; (5) recognition for good work; (6) accurate information concerning the institution's policies, plans and finances. Employe communication must be a two-way proposition. Management has too long been doing things *to* and *for,* rather than *with* employes. The employe also wants (7) reasonably comfortable working conditions, and (8) a sympathetic and fair boss.

All of these things may be achieved when top management, department heads, supervisors and foremen are working together in the interest of satisfied employes and a greater institution.

Good employe relations will be much more likely to develop if the following steps are taken:

1. Analyze and classify each job in the institution.

2. Compile job descriptions for positions of similar responsibilities.

3. Evaluate all positions by analyzing the factors involved in the satisfactory performance of the required duties.

4. Establish uniform salary ranges for all persons in the same classifications, in accordance with the findings of a job evaluation committee.

5. Prepare a comprehensive statement of personnel policies.

Such a program should be introduced after it is completely organized, with the assistance of employe groups, supervisors and other members of the staff. With this basis to build upon, good employe relations will depend on our success in administering, in a fair and impartial manner, the program that we have adopted.

From an address given before the Oklahoma Association of College and University Business Officers, 1950.

ZONING RESTRICTIONS

on the use of land for educational purposes

T. E. BLACKWELL
Treasurer, Washington University
St. Louis

WITH THE GROWING CONGESTION OF our cities, colleges and universities are becoming increasingly conscious of the restrictions imposed upon their use of land by zoning ordinances. Zoning, as a means of controlling the future growth and development of our urban areas, is a comparatively recent extension of governmental power in the United States. The first city to make use of this new power was New York, in 1916. By 1927, 525 cities had developed comprehensive zoning programs; at the present time, practically every metropolitan area in America has an active planning commission with broad zoning powers.

This invasion of the traditional freedom of usage of private property has been justified by the courts on the basis of what is known as the inherent "police power" of the state, *i.e.* the power and responsibility of the state to protect the "health, safety and morals" of its citizens.[1] The courts, however, have set a definite pattern of limitations upon the exercise of this power and the delegation of such power to the unfettered discretion of governmental officials.

The Concordia Collegiate Institute case,[2] decided by the court of appeals of the state of New York on July 11, 1950, is an example of the reluctance of the courts to permit this power to be exercised too broadly. In 1909, the Concordia Collegiate Institute, a nonprofit educational institution, purchased a tract of approximately 40 acres near what is now the village of Bronxville, N.Y., for the establishment of a preparatory school and junior college. At the time of the purchase, adjacent property consisted of farms and vacant acreage. With the years, the population density of the area increased. By 1938, the property had been included within the village of Bronxville and was zoned for residential use. However, educational buildings were not excluded. On Feb. 10, 1941, an amendment to the 1938 ordinance was adopted, which required the consent of 80 per cent of the adjacent property owners before a permit could be issued for the erection or alteration of a building for educational, religious or eleemosynary purposes.

In July of 1948, the institute applied for a permit for the construction of a library, science building, and auditorium on its campus. The permit was refused and the institute petitioned for an order of mandamus, directing the superintendent of buildings of the village of Bronxville to issue the permit, on the grounds that the 1941 amendment was repugnant to the "due process" clause of the federal and state constitutions. The court ordered the permit to be issued and ruled the 1941 amendment to the zoning ordinance invalid on the grounds that it was an unconstitutional attempt to deprive the institute of valuable property rights without due process of law.

PARALLEL CASE CITED

The opinion of the court cited an interesting parallel case,[3] decided by the U.S. Supreme Court in 1928. The Seattle Title Trust Company in 1914 became the trustee and administrator of a philanthropic home for the aged poor, located 6 miles from the business district of Seattle. In 1925, a zoning ordinance was passed requiring the written consent of the owners of two-thirds of the property within a radius of 400 feet to permit the erection of buildings other than residential in character within the area thus zoned. The trust company was unsuccessful in obtaining the required consents to permit it to erect a new building to replace the original structure on the property. The state courts upheld the validity of the zoning ordinance, but the U.S. Supreme Court, in reviewing their decision, held:

"Legislatures may not, under the guise of the police power, impose restrictions that are unnecessary and unreasonable upon the use of private property. . . . There is no legislative determination that the proposed building and use would be inconsistent with public health, safety, morals or general welfare. . . . The section purports to give the owners of less than one-half the land within 400 feet of the proposed building, authority, uncontrolled by any standard or rule prescribed by legislative action, to prevent the trustee from using its land for the proposed home. . . . The delegation of power so attempted is repugnant to the due process clause of the 14th Amendment."

An instance of the unwillingness of the courts to permit delegation of unrestricted power to an administrative agency of government may be found in the decision of the court of appeals of New York in the Packer Collegiate Institute case.[4] The institute had, for many years, conducted a private, nonsectarian school for girls in Brooklyn, with students from preschool age through the junior college level. In 1945, the New York legislature delegated to the board of regents of the University of the State of New York responsibility for issuing certificates of registration to all schools conducted within the state, except those controlled by public school boards or established religious groups. The court held that this legislation was unconstitutional, in that it attempted to delegate power to an administrative body without the enunciation of standards or rules to guide what would otherwise be the uncontrolled discretion of the chief administrative officer of the board of regents. The court ruled that the validity of a law must be judged, not by what has been done but by what is possible under it.

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[1]Cusack Company *v.* City of Chicago, 242 U.S. 526.

[2]Concordia Collegiate Institute *v.* Miller, 93 N.E. 2d. 632.

[3]Washington ex. rel. Seattle Title Trust Co. *v.* Roberge, 278 U.S. 116.

[4]Packer Collegiate Institute *v.* University of the State of New York, 296 N.Y. 184 (1948).

Above: One crewman skilled in ordinary automotive maintenance is invaluable. One man maintains our 5 buses, 7 cars and 4 trucks. Below: The plant engineer should be given the semiskilled help that he needs to sustain a twenty-four hour shift during the winter months.

In relation to the budget,

WHAT IS AN ADEQUATE

KENNETH R. ERFFT
Business Manager
Furman University, Greenville, S.C.

TWO SCHOOLS RARELY USE EXACTLY the same distribution of accounts under the heading of maintenance. In such cases, as in some state schools, no two business officers ever fully agree on how certain expenditures should be charged. The vast physical difference of our campuses precludes this fact. At Furman we have a men's campus and plant and a women's campus and plant 2 miles apart. We have certain accounts under each budget heading appearing for the one campus that do not appear for the other.

An arbitrary list of accounts that most frequently appear in budgets under the heading of Operation of Plant will assist in showing some fairly general average percentages.

The following figures are those used at Furman University, where 13.94 per cent of the total budget is for operation of plant.

Plant Accounts	*Per Cent of Plant Budget*
Salaries (monthly basis)	2.3
Wages (weekly basis)	42.8
Supplies	2.8
Steam plant expense	16.9
Campus maintenance	1.6
Repairs, renewals, replacements	8.4
Light, gas and power	8.8
Telephone (switchboard operation)	4.7
Insurance	6.0
Water	1.3
Laundry and dry cleaning	0.24
Automobile expenses (buses not included)	1.6
Miscellaneous	2.56
TOTAL	100.00

From an address delivered at the annual meeting of the Southern Association of College and University Business Officers, 1950.

A second point to clarify is the matter of charging the operation and maintenance of auxiliary units. A recent survey of southern colleges disclosed that about 50 per cent followed one of two methods. At Furman we follow both, using one method on the men's campus and the other plan on the women's campus.

On the men's campus our auxiliary units are in independent buildings. Except for power and steam, some measure can be made of the cost for maintenance and repairs of each unit. After several years of mild confusion to the bookkeeping department and our auditors, we settled upon the plan to charge the auxiliary unit only when an expense for repair or maintenance was incurred outside our own shops or crew. We applied this rule to the dining room, the bookstore, and the soda shop. All charges for the residence halls, the library building, and the classroom buildings are made to the operation of the plant. This represents a typical case and is the plan more or less followed by schools with similar campuses.

On the women's campus we have what represents a second typical plant situation. The plant consists of six large units all built side by side and fully connected or joined by passageways. In other words, the whole plant is literally under one roof. Actually, there also are six unattached units, but they are taken along with the main plant in the maintenance program. So, for the women's campus we make no attempt to isolate the maintenance costs of the auxiliary units.

This method of accounting for the cost of our maintenance program is probably a composite of what is usually found in the average small college. On this premise we shall discuss what

MAINTENANCE PROGRAM?

ought to be an adequate maintenance program.

The first question to be considered is: How much help do I need? The question really is: What skills are required to meet my minimum need? In answer, I suggest that you need at least the following:

1. A "head man" (usually called superintendent of buildings and grounds) who can receive your outline of a project and then carry it through the way you want it. He must be capable of employing the men under him if necessary. He must possess enough technical knowledge and skill to supervise simultaneous projects in all areas without necessarily being able to do the work himself. He must have sufficient administrative skill to keep all departments under him working with reasonable efficiency. He is a man with an office in which he can never be found.

2. You must have a plant engineer. This is a man who understands and operates your steam and auxiliary heating units. He must be able to maintain them through the usual breakdowns. He should be given the semiskilled help he needs to sustain a 24 hour shift during the winter months. His extra help can be used in other areas during the off months.

3. You will save money if you include one skilled carpenter in your crew. We use about one-third of our carpenter's total time on repair work on our rental property, of which we have 160 pieces on the men's campus alone. We charge this portion of his time to the housing office, which we operate as an auxiliary agency. We give the carpenter a helper if one is needed by assigning one of our "floating workers" for a day at a time.

4. One of the crew should be a man skilled in gardening and landscape maintenance. Without this skill you cannot hope for a satisfactory appearing campus. This is even more important for schools in the South where campuses can be kept green the year round than for schools that have problems of snow disposal. This man must have as many unskilled helpers as the budget can afford. During bad weather he can assist on inside projects. Our gardener and his crew also maintain the stadium.

5. One crewman skilled in ordinary automotive maintenance is invaluable. We have five buses, seven cars, and four trucks, which one man maintains. He also supervises the student bus drivers, schedules the use of the cars, and plans the truck runs. He uses one of the "floating workers" for wash jobs when he can't do the work himself. In addition to his responsibility for the garage, he makes the mail run to the post office three times daily and performs other minor duties. We buy our automobile oil in quantity lots, but we do not pump our own gasoline. Pumping its own gasoline is a losing game for a small college.

6. A skilled electrician is an asset but usually more of a luxury than a small school can afford. The average handy man can make minor electrical repairs. Because our city codes require a licensed electrician to do any major work on buildings, we have an agreement with a local electrical firm to do our major work. We pay standard rates for labor, but we usually pay the jobbers' price for material.

7. The final segment of the crew is the group of unskilled or semiskilled workers, such as maids, janitors and "floating workers." Janitors usually are worked on two plans. First, a man is assigned as janitor to one building.

The ideal arrangement is the assignment of a janitor to a full-time job in one building and to have him responsible for maintaining that building.

It becomes his sole responsibility to clean the rooms, sweep, dust, wash floors and windows, and do all that may be required to maintain that building. This is the ideal arrangement if such an assignment is a full-time job and if the use of the building will permit its being covered once each day within the eight hours the janitor is on the job.

WORKERS SHIFTED AROUND

Many of Furman's buildings are in such constant use that they have to be cleaned within a few hours of time. This necessitates scheduling a cleaning crew of several "floating workers" who move from building to building. In this way the same workers are used in several buildings and on various projects all in the same day.

Keeping classroom buildings clean and orderly is a matter of student-college relations of major importance, and one frequently underestimated by the business office. Students are in-

clined to show your buildings about the same respect that you do.

The secondary aspect of an adequate maintenance program concerns periodic projects. The first of these is repainting. There is no hard and fast rule that can be followed concerning how often to paint. As often as required and as often as you can afford to do so constitute the rule whether we like it or not. For the average small school it is impractical to keep a crew of full-time skilled painters on the staff. It will prove equally uneconomical to use their own unskilled or semiskilled help. After trying various plans, we have settled upon the practice of hiring a crew of four painters who work by the day under the supervision of our superintendent of buildings. We use them on an average of three or four months out of the year. This plan has proved better than working by contract because we can shift them in or out of doors as the weather permits. Under the contract plan there was a tendency to speed up to get through, usually to our disadvantage. We furnish all the paint and the painters furnish their own brushes.

WALLPAPERING BY CONTRACT

Our wallpapering is done by contract. We select and buy the paper, but the labor is on the basis of a job price. We hold to the minimum of complete satisfaction with the work.

On refinishing floors we follow one of two methods: We use our own sander on open areas with no problems involved, or we contract on the per foot basis for sanding large projects or complex problems involving stair wells and requiring special machines. In all cases, our painters give the floors any treatment they receive after the sanding is completed.

Larger periodic maintenance problems are handled as the case requires. We do our own sidewalk replacement and construction. If our crew cannot manage a repair, we usually contract for the work, preferably by the hour and under our own supervision.

The second phase of this discussion concerns the relation of an adequate maintenance program to the budget. This question of budget has been studied by many others on the basis of experience and, oddly enough, the results seem to be about the same for most small colleges. One such study was made recently by Paul K. Nance, treasurer-comptroller of Oklahoma Baptist University. Mr. Nance surveyed 13 small southern colleges. The results in summary were these:

1. The average amount of total budget spent for operation and maintenance of plant was 13 per cent.

2. Of the total spent for operation and maintenance the average division was: operations, 60 per cent; maintenance, 40 per cent.

3. The average distribution of costs by percentage of the operation and maintenance in the schools studied was:

	Per Cent
Salaries and wages	49.0
Material, parts, repairs	20.0
Heat, light, water	21.0
Insurance	3.5
Truck and auto	2.0
Other	4.5

4. About half the schools surveyed charge the auxiliary units with work done by the physical plant department. The larger schools distribute charges to a greater degree than the smaller schools.

The figures quoted concerning the share of budget spent on the maintenance and operation program must not be taken too literally. Consideration must be given the individual differences in schools. Among small schools we find three basic situations in budget making that inevitably determine "how much will be enough." In state supported institutions a legislative body usually allocates a total sum for a current year to cover the complete operation. The business officer estimates his needs and usually is successful in having them covered by the allocation. The second situation is found in the privately endowed school with or without denominational assistance. Furman is such a school. Our income is derived from endowments, the State Baptist Convention, and student fees. The third and ideal situation is in the wealthy school where endowment income exceeds normal requirements and where student fees are a minor consideration.

RECOMMEND CONTINGENCY FUND

In the case of the first two types, the term "adequate" is given a liberal interpretation somewhat in proportion to enrollments and endowment yield. Short-sighted as it may be, a policy of many college presidents faced with the need to retrench or to revise a budget is to begin with the maintenance program. To obviate this practice, we strongly recommend a plant contingency fund as a cushion.

There are several ways by which we augment our maintenance program to relieve its demands on the budget. Here are three of them.

1. In the case of endowment supported student service scholarships on our men's campus, we are increasing their application to plant maintenance. For example: (a) two men serve as a team to wash all the blackboards, clean the erasers, and replace chalk in all classrooms; (b) two men are assigned as a team to wash windows in those buildings where it is practical; (c) four men keep the hoppers filled in the stokers that fire independent auxiliary heating units; (d) all science laboratories are maintained by students on service scholarships; (e) the main auditorium lighting system and speaker system and the radio studios are maintained likewise. These and other similar essential services are thus accomplished at no cost to the plant budget.

2. A furnished apartment in each of our residence halls is given rent free to a faculty member and his wife in exchange for his assuming responsibility for the discipline and general supervision of the building. He checks on the janitor in the building as well as on all other aspects of service and maintenance. He calls on or reports directly to the superintendent of buildings and grounds for any assistance required. He reports building and furniture damage to the dean of the men's college, who in turn approves a charge against a student's account to pay for the damage done. These residence hall counselors are assisted by a house committee in enforcing student closed-study rules. All rooms are inspected daily or weekly. The total result in improved maintenance and decreased replacement expense more than justifies the cost involved.

3. We have an active and popular student-faculty cooperative committee that meets once weekly. Through this committee students make their complaints to the administration; we, in turn, make our complaints to the students. We make it a practice to meet student demands completely if at all practical; if not, we give a full, frank and open explanation of our reason for failing to do so. In exchange, we frequently make strong demands upon the students for help in maintenance as well as in other problems.

One thing that I have learned since being in the school business is that students are just about as unpredictable as normal people.

GOOD FOOD SERVICE

depends on housekeeping standards

LEE BURNS
Director of Residence Halls
University of Wisconsin

IT MIGHT BE WISE TO EXPLAIN WHAT I believe should be included in the definition of good housekeeping. Good housekeeping includes all phases of cleanliness, such as floors, walls and equipment. It includes orderliness in the placement of equipment and supplies, and layout of working space. It includes all phases of sanitation, including programs for the extermination of roaches, vermin and rodents. It includes any practice that promotes the general sanitation of the establishment, even to the inclusion of efficient technics in the use of equipment, as well as the proper maintenance of equipment.

How can good housekeeping in food service units save you money?

1. By good housekeeping, efficiency is promoted. If pans and utensils have definite places in which to be hung or stored and if they are placed in these proper places, waste motion is cut down and time and money are saved.

2. Good housekeeping reduces the danger of injuries—slippery, messy floors are a definite hazard; grease dripping from a hood or from a stock pot is an invitation to accident. Equipment, such as stools or carts out of place, is dangerous; packing crates or empty boxes often can be tripped over.

3. Good housekeeping is an important factor in keeping employe morale high. Employes are more likely to enjoy working in an orderly, clean kitchen than in a messy one. By maintaining good morale, employes are better producers. Likewise, a high employe morale will cut down on the labor turnover.

4. Good housekeeping improves the appearance of a food establishment, and a reputation for cleanliness is invaluable in the food business. Don't underestimate the eye appeal of your food establishment any more than the eye appeal of the food you offer.

5. Good housekeeping can cut down on food waste. Orderliness in refrigerators and storerooms keeps chefs and food supervisors aware of what foods are on hand and which should be used up first, so that leftover food may be efficiently utilized. Good housekeeping will result in the older products being used up first and thereby will reduce the danger of spoilage and waste.

6. Good housekeeping likewise can aid in cutting down the dangers of food spoilage that might produce serious illness of employes or patrons. Just one case of food poisoning can cost thousands of dollars in business good will, not to mention the possible danger of deaths or the serious consequences of such illnesses.

7. Good housekeeping cuts down the danger of fire losses, which run into millions of dollars each year. Many fires are directly attributable to poor housekeeping; for example, grease fires in hoods or from fans where grease has been allowed to collect, or from spontaneous combustion from oily rags stored in the janitor's closet or in the basement.

8. Good housekeeping lengthens the life of equipment. Proper maintenance of equipment includes systematic oiling, greasing and inspection for needed repairs. Checking dish machines daily to see that the jets are cleaned, to see that the strainer pans are removed and cleaned after each meal, to see that packing around the pumps is not leaking saves many dollars and improves the efficiency of the dish machines. Steam coils in steam tables get coated and lose their efficiency when they are not regularly and systematically cleaned.

9. Good housekeeping reduces the dangers of roach and vermin infestations, of rats and mice. Any one of these pests can hurt the food establishment's reputation, but even more directly can ruin thousands of pounds of food a year.

There are three essentials of good housekeeping. The first is intelligent supervision, which includes planning, inspection service, and training. The second is good employes, and the third, proper tools and technics.

INTELLIGENT SUPERVISION

Of the three essentials, well coordinated supervision is the most important. The backbone of our residence hall organization at Wisconsin is not the 450 or 500 employes that we have, although they are very important to our organization, but the 20 or 25 supervisors who really make the organization hum. For good housekeeping, you must have good supervisors. It is not easy to find good supervisors, especially for housekeeping work. It is often best to develop them from within your own ranks. It is especially important to recognize these maintenance supervisors, housekeepers and head janitors as important members of the staff. You should meet with them regularly, counsel them, get their opinions, talk out their problems, get them to exchange ideas; above all, you should try to build up in them a professional attitude and a proprietary interest in your organization. When you can get a supervisor to look at your buildings and your equipment as if they were his or her own, then you have a valuable employe. Likewise, if you can get a supervisor to be interested in new technics and to be interested in experimenting with new methods, you will gain a great deal.

PLANNING

Supervision demands considerable planning. Maintenance supervisors must be kept well informed of the program of residence hall activities; you must review with them plans for your shut-down periods; you must

work with them on schedules for repairs, cleaning and maintenance. They should be provided with schedules of activities and of opening and closing dates, and they should be required to work out in advance schedules of work to be done during those closed periods.

INSPECTION

Another phase of supervision that too often is neglected is inspection. A good supervisor must inspect his area thoroughly and regularly. It is good practice for another member of the staff to make occasional inspection trips with the supervisor.

At Wisconsin, I have as one of my chief assistants a man who is responsible for the maintenance and housekeeping standards in all the residence halls and food units. A great deal of his work is of an inspection nature. He does not have the ordinary line authority or direction over janitors, maids or supervisors. Instead, his responsibility is one of a functional nature. It is his duty to see that good standards of maintenance and housekeeping are achieved in all of these units. He inspects, advises, trains and works with the housekeepers, maintenance supervisors, and building engineers, and he reports directly to me or to the associate director. He works closely with unit managers and advises them on all matters relative to maintenance and housekeeping.

Every month we have meetings of maintenance supervisors and housekeepers; these meetings serve as an instruction period and permit discussion of common problems.

From time to time specific studies are made, and reports of these and of inspections are given at the monthly meetings. This is an excellent means for building up professional interest in the supervisors and for exchange of ideas. Results of each meeting are duplicated, and copies are sent to maintenance supervisors for their notebooks. Likewise, copies of the proceedings are forwarded to unit managers.

For the dishwashing rooms we have a supervisor on our central staff who, like our central maintenance supervisor, has functional authority over all of the dishrooms. It is his duty to inspect all of the dishrooms to see that the equipment is in good operating condition, that proper technics are used, and that proper temperatures are maintained. It is his duty, too, to be an adviser to the dishroom supervisors and to the food supervisors. He inspects the dishes and dishrooms and trains dishroom supervisors in such matters as setups, upkeep of equipment, and orientation of employes. We have standardized on one make of machine in all dishrooms, which simplifies the repair problems as well as training problems.

I look to the dishroom supervisor to keep me posted on the condition of the equipment. I expect him to inform me when new equipment is needed, and I expect from him suggestions on improvements in dishroom layouts and on new technics. I expect him to experiment with new dishwashing compounds and new equipment.

In addition to his duties as supervisor of our dishrooms, this man supervises all insect control spraying. One of his assistants sprays and dusts for roaches on a definite schedule. This assistant sprays screens, doors, garbage rooms, and storerooms to cut down on flies. He also sprays decorations for fireproofing when they are used in any of the halls.

The dishroom supervisor works closely with members of the university entomology department, and often we experiment with new powders or new sprays for it. This contact is especially valuable, for it keeps up an active professional interest in the work. New methods and new materials for pest control often are discussed at our staff meetings.

A third type of inspection service that we employ as an aid to good supervision and good management is one that I believe especially valuable. We contract each year with the Wisconsin Department of Hygiene to have a member of its staff inspect all of our food units once a week and report its findings to us. Between our residence hall units at Wisconsin and the food units at the student union, we pay the full salary of this inspector. However, he is a member of the staff of the State Department of Hygiene, and the reports are entirely independent inspections. Thus, complete frankness of criticism is obtained. A copy of this technical report is sent directly to me and another copy to the director of student health. Copies of the reports are then made in our own offices and forwarded to the unit supervisors.

These reports include such items as condition of the equipment, condition of the floors and refrigerators, milk counts, cream counts, refrigerator temperatures, bacterial counts per utensil or dish examined, condition of the garbage rooms and garbage cans, number of flies noted, and condition of rest rooms. This is an over-all independent inspection of the job being done by our supervisors. It provides an excellent check on our housekeeping.

We post on the door of each of our refrigerators the temperatures of the refrigerators as taken twice a day by building engineers. In this way the engineer can be held responsible for any serious variation in the temperature and can make the necessary adjustments or repairs.

In all of our food units samples of foods served are kept in the refrigerators twenty-four hours. For example, samples of food served at one luncheon period are set aside on special shelves in the refrigerators until the next luncheon period. This is a precautionary measure in case questions of food poisoning should be raised. Whether samples of these foods could be of much help from a scientific standpoint is questionable, but the practice of saving them certainly is an excellent way of emphasizing to our food service personnel the great importance of the proper handling and storage of food.

TRAINING

Training of employes is another important function of our supervisors. Best results in training maintenance and cleaning employes in our food units are obtained by direct work with them. We have found that handbooks or written information is not particularly valuable for this type of employe. They must be shown how to mop and how to wash windows, and must be told in simple language why we want things done in a particular way. Occasional movies showing good housekeeping technics are helpful, but more than anything else, direct demonstration and close supervision constitute the most practical system for training these people.

GOOD EMPLOYES

While I consider the supervisory angle of good housekeeping by far the greatest single factor in doing the job, it is important to have good employes to do the work. Although the quality of employes we are getting for this work at the present time is improving, we should realize that the type of work offered in housekeeping and maintenance work in kitchens, dining

rooms, and storerooms is not always attractive and, therefore, does not attract the best employes. The old practice of assigning the poorest employe —perhaps a transient drunk or the has-been—to kitchen porter work or to the pot and pan sink must be abandoned. Managers must realize the importance of these jobs and do their best to get good people for them.

To keep good employes on these rather unattractive jobs, we must be certain that conditions are as conducive to good work as possible. Have good lights in the pot and pan sink corner; install fans if necessary; have supervisors meet with these employes and discuss their problems, even though they may seem minor; show them how to mop so that it will be easier on their backs; have the rest of the kitchen staff recognize them as important, and demand cooperation from cooks, chefs and kitchen helpers to keep the place clean and orderly.

GOOD TOOLS AND TECHNICS

The third essential for good housekeeping calls for good tools and good technics. One essential tool is hot soft water. Unless you happen to be in an area that is blessed with soft water, water softeners are essential to good housekeeping and to good dishwashing. To try to clean with hard water or to operate a food unit with hard water is not only extremely difficult but also inefficient. The problems of cleaning are multiplied: steam tables develop lime deposits; dishwashing is not particularly satisfactory; soap and detergents are wasted, and the over-all job cannot be done as well.

Likewise, I believe that having steam available, along with the hot water, for cleaning garbage and waste cans is essential. If refrigerated garbage rooms are provided, the problem is not so acute as it is in places where such refrigeration is not available.

Good two-tank mop cans on wheels, with wringers, should be furnished the kitchen moppers. These are comparatively inexpensive and are definite aids to good housekeeping.

When asphalt tile or rubber tile floors are used in dining rooms, mechanical floor waxers are desirable.

When the plans are being made for new buildings or for remodeling, food managers should consult closely with their maintenance supervisors. Good housekeeping can be made a lot easier and a lot cheaper by intelligent planning. Use of salt-glazed tile on kitchen and storage room walls will eliminate thousands of dollars in painting costs over the years. A kitchen floor of quarry tile is practical; terrazzo also is quite satisfactory but slightly more slippery. Hoods over ranges and steam pots should be designed so that the maintenance men can clean them easily and thoroughly.

Shelving and tables of stainless metal are necessary. Walk-in refrigerators finished inside with glazed tile can be scrubbed down and mold growths can be cleaned off without resulting discoloration. Painting of the interiors of refrigerators presents a serious problem in units that are operating the year round; this is eliminated by use of glazed tile.

Once you get your housekeeping in excellent order the problems connected with it become fewer, and instead of headaches good housekeeping will bring you pleasure.

IT WORKS!

say all concerned with student table service

LOUISE Y. WIGHTMAN
Director of Food Service
Christian College, Columbia, Mo.

MABEL A. BUCKNER
Teacher, English Department
Christian College, Columbia, Mo.

TABLE SERVICE, A PROBLEM FOR 92 years at Christian College, has been solved to the satisfaction of the students, the college business manager, faculty and director of food service. Let's see how some of the students look upon this rather unusual experiment.

"If I serve on an average of every other day, by Christmas I'll have $86."

"With what I earn serving in the dining room and working in the library, I can pay at least $100 of my expenses at National Music Camp this summer. I could do better than this if I weren't buying all my Christmas gifts and earning my spending money besides."

"I'm paying for my extra riding lessons. Dad said O.K. to my taking riding, but he flatly refused to do more than that, so it's up to me to earn the money for those extra hours."

These conversations, overheard by chance, led the Christian College director of food service to ask other girls why they were serving in the

Ready for the annual Christmas dinner honoring the seniors in the college dining room. These juniors are ready to do the serving.

dining room. Many replied that they liked the feeling that comes from earning their own spending money. Several were escaping the embarrassment of asking dad for the money to buy his own Christmas gift.

With these worthy objectives, it is no wonder the office of the director of food service is deluged by requests of girls who drop around early each meal hoping to substitute on the regular serving team. Any impatience at the confusion caused by seven or eight girls asking all at one time, "Any chance to substitute?" or "Who wants a sub?" is dispelled by the remembrance of the days when professional waitresses were almost impossible to find, and when our worries centered around whether we would have anyone to serve a given meal or whether the personal appearance or even personal cleanliness of a hastily hired waitress would ruin the meal for those being served.

FEW NEED TO WORK

Lack of help brought the need for finding a solution to the serving problem in our school. This didn't look easy, for at Christian few students have to help defray their college expenses, since most of them come from families in the higher income bracket. With this confronting us, we wondered whether student service would work.

It really is working! Are there many advantages to this setup? Yes, the specific answers to this question depend somewhat upon to whom you put the query. Ask our college business manager, and his answer is, "Yes, for the savings to the college each year are considerable." Ask the staff members who have their meals regularly in the college dining room, and the unanimous answer is, "Yes, it's working perfectly." Invariably, they mention the days when an unkempt professional waitress spoiled a meal for them. And they remark on the informality that comes with having our own girls at work. Although the girls who serve are not supposed to carry on conversations with the students who are at the table, there is nevertheless a more friendly, congenial atmosphere in the dining room since all are of the same social class.

Faculty members point out that the interest which the students have in *their* dining room and their eagerness to have things run as smoothly as possible are reflected favorably in the service. Although all employes have annual health examinations, there is no absolute assurance that diseases aren't contracted between examinations. There is no worry on this score as far as the students in our college are concerned.

Ask the director of food service and her reply is, "Yes, it's working! Of course no dining room service is perfect, but this is the best I've seen. The girls are intelligent; I can give them instructions and they know what I am talking about and do it. They are dependable. They are pleasanter, more agreeable and cooperative than professional workers who have little appreciation of our school and the aims and ideals for which it stands.

"Working directly with students gives me the opportunity of becoming well acquainted with their food habits. Our girls come from all parts of the country, and regional likes and dislikes in food are reflected in their food interests. This close association enables me not only to learn to know and to cater somewhat to their wishes but also to educate them in acquiring a taste for dishes to which they are not accustomed. They never have any hesitancy in making their preferences known.

"Working directly with students gives me the opportunity of becoming better acquainted with their personal and dormitory problems and therefore of making a greater contribution to campus life."

Ask the students whether the plan is working, and the reply is, "But d-e-f-i-n-i-t-e-l-y!"

Most of our girls within a comparatively short time will become homemakers and the training they get in meal service—both family and formal—is invaluable to them. Not all students are able to enroll in formal courses in this field and would not, therefore, have the experience were it not for their participation in the dining room service. Many of our students go into church or secular organizations where they are called upon to organize inexperienced groups to serve luncheons and dinners. In no campus activity is this training more effectively given.

In the course of a school year, approximately 30 girls work as team captains. It is the responsibility of each to organize her team of 29 girls, notify them when they are to serve, assign them specific duties such as lighting candles (when they are used at dinner), serving tables, seeing that goblets are filled, pouring hot drinks, and working in the serving room scraping and stacking dishes.

CAPTAINS EVALUATE WORK

Since no students have the same duties two days in succession, the captains have the responsibility of evaluating the work of each team member and deciding where each will work most effectively; this is for most of our girls the first practice they have ever had in administration. Administrators must show no favoritism, must select the best girl for a particular job, and must be firm in seeing that the duties are carried out. This implies self-discipline, for it is easy to overlook the weakness of a friend.

A team captain, as assistant hostess in the dining room, has as one of her duties keeping an eye on the conduct of all students and either reporting lapses of etiquette to the student government officers or taking care of the problem herself. The administrative responsibility that the students assume is bound to stand them in good stead later.

The work of the team members is not devoid of responsibility, for they have their duties to perform, not the least of which is cooperation with the team captain and the other team members. One of the marks of a successful person is the ability to work with all types of people and to understand the point of view of others. Even if a student returns to a home where she will have no direct part in the home duties, because of her training she will better understand the problems that the domestic employes face and will know how to command their respect and cooperation.

It works! Our business manager, faculty members, director of food services, and the students themselves unanimously agree that student dining room service is really working at Christian College.

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NEWS

Data on Social Security Legislation . . . Procedure for Mobilization of Reservists . . . Names Members of National Science Board . . . New Hampshire Sets Up Emergency Committees . . . Reject Proposal to Merge Two Colleges

Meet to Prepare Manual on Business Administration

CHICAGO.—The national committee on preparation of a manual on college and university business administration met here during November to edit the first chapters of the forthcoming manual. The meeting was under the direction of A. W. Peterson, vice president in charge of finance at the University of Wisconsin, who serves as chairman of the committee.

Two days were devoted to an intensive study and review of chapters on general organization and budget preparation. The chapters had been prepared by Harvey Sherer, former senior accountant at the University of Illinois, and served as a basis for editing discussion.

Chairman Peterson indicated that he hoped the first of two volumes on the manual would be ready for the printers by July. The committee will meet again on December 9 and 10 for a study and revision of other chapters of the manual.

Attending the Chicago meeting were A. W. Peterson, chairman of the committee; J. C. Christensen, chairman emeritus; A. M. Graham, bursar, Winthrop College, representing the Southern Association of College and University Business Officers; Lloyd Morey, representing the American Council on Education; L. H. Foster Jr., treasurer of Tuskegee Institute, from the American Association of College and University Business Officers; T. E. Blackwell, treasurer of Washington University and editor of the manual; H. A. Bork, Oregon State System of Higher Education; George E. Van Dyke, specialist for college business management, U.S. Office of Education; Harvey Sherer, formerly senior accountant, University of Illinois; Olaf Lundberg, comptroller, University of California at Berkeley; George Welch, comptroller, Vassar College; Arthur Lincicome, assistant comptroller, University of Chicago; Trevor Bowen, Commission for Financing Higher Education; Ray Kettler, comptroller, Purdue University, and Clarence Scheps, comptroller at Tulane University.

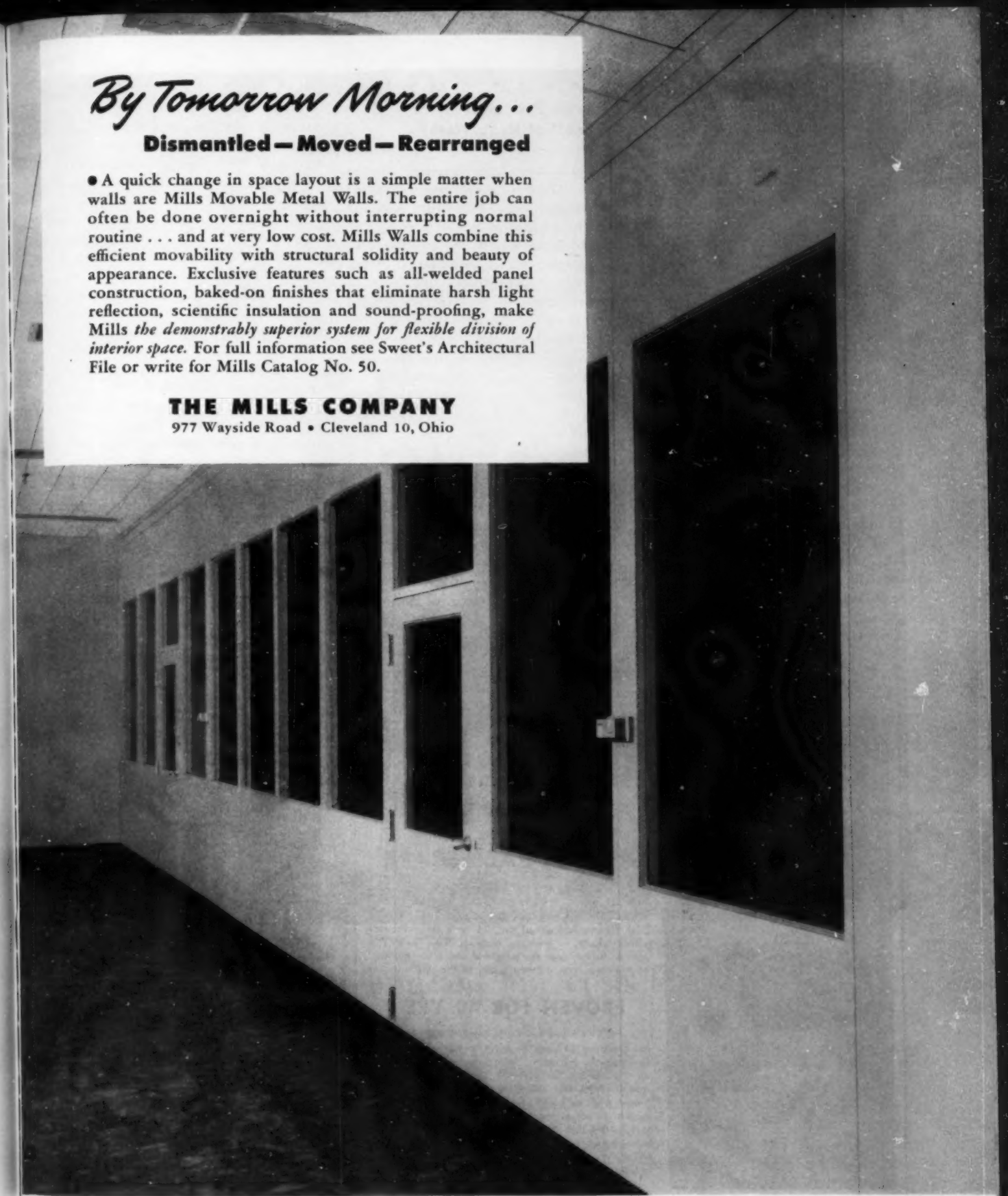
Data Available on Social Security Legislation in Private Colleges

WASHINGTON, D.C.—The new forms, rules and regulations covering the application of social security legislation to privately controlled institutions have just been released and are available for use by college business officers.

Details of the proposed rules and regulations, prepared by the bureau of internal revenue of the Department of the Treasury, were published in detail in the November 17 edition of the *Federal Register*. Prior to the final adoption of such regulations, consideration will be given to any data, views or arguments pertaining thereto which are submitted in writing in duplicate to the Commissioner of Internal Revenue, Washington 25, D.C., within the period of 30 days from the date of publication of the notice in the *Federal Register*.

Under the new law, which will become effective January 1, an institution that desires to come under the new social security program must file a certificate waiving exemption from the Federal Insurance Contributions Act taxes, and, furthermore, must file a list signed by at least two-thirds of its employes showing that they concur in the waiver. An organization desiring to begin participation in January must file the executed forms before January 1 with the collector of internal revenue for the district in which the organization's principal office is located. Forms filed later will result in coverage commencing with the calendar quarter next following the quarter in which they are filed.

All individuals who are employes of the institution must be included in determining whether two-thirds of the employes of the organization concur in the filing of the certificate of appli-



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cation, except such persons as are specified in certain paragraphs of the act. These persons include students, nurses and interns. Such persons are not to be included in the count of employes in determining the two-thirds' concurrence, in view of the fact that they are not permitted to participate in the benefits of the new regulations.

Student Body Urges Ban on Racial Barriers

NEW YORK.—The student board of Columbia College announced recently that it had recommended to Columbia University that Oct. 1, 1956, be set as a deadline for college organizations to abolish written racial and religious barriers in their constitutions. It is reported that members of the board said the resolution was aimed specifically at seven of Columbia's 16 fraternities.

The student government body took the action in response to a vote last May by the college student body, which put itself on record as favoring a deadline for the elimination of written race-bias clauses in campus organizations.

Revise Procedures for Recall of Reservists

WASHINGTON, D.C.—A recent memorandum from Secretary of Defense Marshall, which was addressed to the secretaries of the army, navy and air force, directed the services to (1) establish an orderly and effective procedure for further mobilization of our military reserve forces, and (2) to screen carefully the reserve lists to eliminate those not available for extended active duty.

In implementing the new directives, each service has issued a statement for the guidance of local commanding officers. Excerpts from such announcements are as follows:

Army. After January 1, all officers recalled will be given four months' notice prior to reporting, on the same basis as members of the enlisted reserve corps. Field grade officers (major and above) will not be recalled involuntarily unless they are members of units that are called to active duty or are scarce critical specialists not otherwise obtainable.

Navy. A reservist hereafter called to active duty shall be allowed the maximum time possible and in no case less than 30 days between the date designated for physical examination and the date on which he must report for active duty.

Air Force. Involuntary recall of reserve forces enlisted personnel is to be discontinued immediately. Involuntary recall of reserve forces officers is to be confined to those possessing critical skills not available from voluntary procurement or training sources.

Marine Corps. All marine officer and enlisted reservists to be called to active duty by June 30 will be individually notified by the end of December. Any marine reservist not so notified will be given a minimum of four months' advance notification. From October 25 on, all reserves called up will be allowed a minimum of 30 days between receipt of orders and actual assignment to active duty.

President Names Members of National Science Board

WASHINGTON, D.C.—President Truman, after a delay of more than six months, has finally named the 24 members of the National Science Board called for by the legislation which created the National Science Foundation. The law was originally signed by the President last May.

Membership of the National Science Board includes seven university presidents, three college deans, three college department heads, four university professors, two research directors, two presidents of public affairs foundations, two industrial corporation presidents, and one professional engineer. The appointees are:

Sophie D. Aberle, special research director, University of New Mexico; Robert Percy Barnes, head, department of chemistry, Howard University; Chester I. Barnard, president, Rockefeller Foundation.

Detlev Wulf Bronk, president, the Johns Hopkins University; Gerti Theresa Cori, professor of biological chemistry, Washington University Medical School; James Bryant Conant, president, Harvard University.

John W. Davis, president, West Virginia State College; Charles Dollard, president, Carnegie Corporation; Lee A. DuBridge, president, California Institute of Technology.

Edwin B. Fred, president, University of Wisconsin; Dr. Paul M. Gross, dean

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Frederick A. Middlebush, president of University of Missouri; Edward L. Moreland, partner, Jackson & Moreland, Engineers, Boston; Joseph C. Morris, head of physics department and vice president of Tulane University.

Harold Marston Morse, professor of mathematics, Princeton University; Andrew A. Potter, dean of engineering, Purdue University; James A. Reyniers, director, bacteriology laboratories, Notre Dame University.

Elvin C. Stakman, chief, division of plant pathology and botany, University of Minnesota; Charles Edward Wilson, president, General Electric Company; Patrick Henry Yancey, professor of biology, Spring Hill College, Spring Hill, Ala.

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Investigate G.I. Education Program

WASHINGTON, D.C.—Just prior to recessing for the November elections, the House of Representatives appointed a special select committee of nine members, with Congressman Olin E. Teague as chairman, to conduct a full investigation of the G.I. education and training program.

The Teague committee desires evidence showing the extent to which veterans participate in and profit from the program, specific information regarding abuses on the part of veterans or institutions, and any administrative abuses on the part of the Veterans Administration.

The staff of the American Council on Education has undertaken, at the request of the congressional committee, studies to obtain adequate information for the committee.

Hold Hearings on TV Allocations

WASHINGTON, D.C.—The Federal Communications Commission is now conducting hearings for the purpose of deciding whether available television frequencies will be completely allocated to commercial operators or whether channels in the present high-frequency band shall be reserved for exclusive assignment to educational institutions.

The decision will depend in large measure upon the extent to which educational administrators make a strong presentation for the need of such reservations through personal appearances before the commission or through communications to the commission. It is suggested that institutions wishing to assist in obtaining special allocation for education should write to the Joint Committee on Educational Television, 1201 16th Street, N.W., Washington 6, D.C.

W.C.T.U. Criticizes Columbia's TV Tie

EVANSTON, ILL.—Mrs. D. Leigh Colvin, president of the Women's Christian Temperance Union, recently criticized Columbia University for "behind the scenes cooperation" with the

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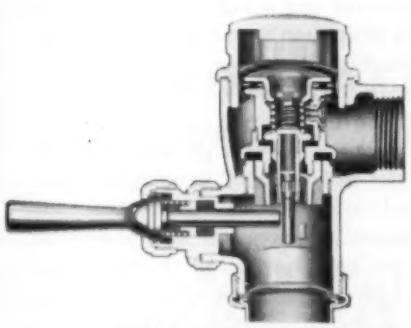

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A very popular Crane group is the one pictured here, which includes the **Rhodile Lavatory, Sanuro Urinal** and **Santon Closet.**

Rhodile Lavatory, porcelain enameled cast iron, features high splash back, large rectangular basin—*Dial-ese* controls with interchangeable cartridge.

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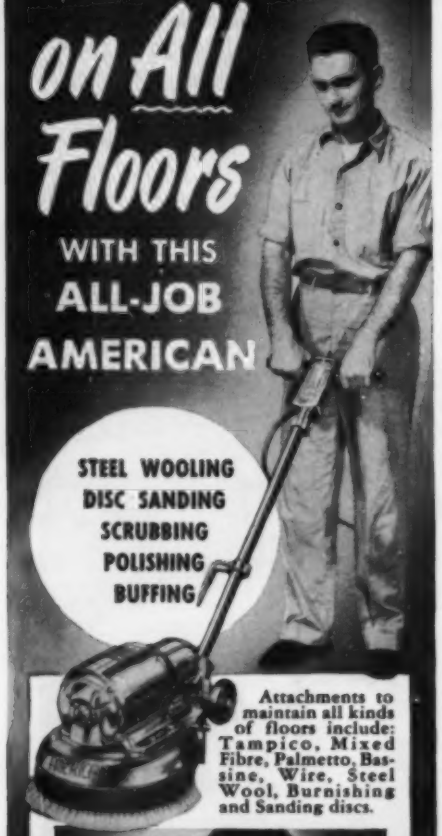

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NEWS

Joseph Schlitz Brewing Company, Milwaukee, in connection with a television program.

The program is the Pulitzer Prize Playhouse presented over the ABC-TV network. It features famous plays, most of them Pulitzer prize winners, for which Columbia's Pulitzer School of Journalism makes the annual awards.

The Women's Christian Temperance Union head said that Columbia should return the $100,000 gift from Schlitz and withdraw its cooperation.

Carl W. Ackerman, dean of the Columbia University Graduate School of Journalism, strongly defended the arrangement and the $100,000 contribution by the company to the university. He pointed out that there was ample precedent for the Schlitz sponsorship of the Pulitzer Prize Playhouse in view of the fact that Vassar College had been founded by Matthew Vassar, a brewer.

Students to Handle Activity Fees at Mount Union

ALLIANCE, OHIO.—The student senate of Mount Union College has inaugurated a plan by which students will have complete control of funds collected from student activity fees. The funds, amounting to over $10,000, formerly were handled by the college business office.

Under the new plan, fees will be divided among the various organizations on campus. The new system will require the signature of the student senate president and treasurer. A faculty adviser supervises the activities.

The plan was recommended by the board of trustees, president, dean and student senate adviser.

Sweet Briar Favors Social Security for All Employes

SWEET BRIAR, VA.—Adoption of the principle of social security for all employes of the college, to become effective July 1, 1951, if at least two-thirds of the employes are in favor of it, was voted by the board of overseers of Sweet Briar College at its recent fall meeting. Details for the plan are to be worked out in the meantime.

A retirement annuity insurance program, mandatory for academic personnel and on a voluntary basis for nonacademic employes, has been in effect at Sweet Briar since 1939.

New Hampshire Names Emergency Committees

DURHAM, N.H.—The University of New Hampshire, through the office of its president, has created five emergency committees for service to the state and nation in the event of a continuation of present world conditions.

The committees will plan programs for on-campus training, civil defense, research, selective service and reserve registration, and service to the state, to be carried out if the university is called on for work in any of these fields. Each committee has been directed to develop its program on the basis of the present situation with additional plans for full activity in the event of total war.

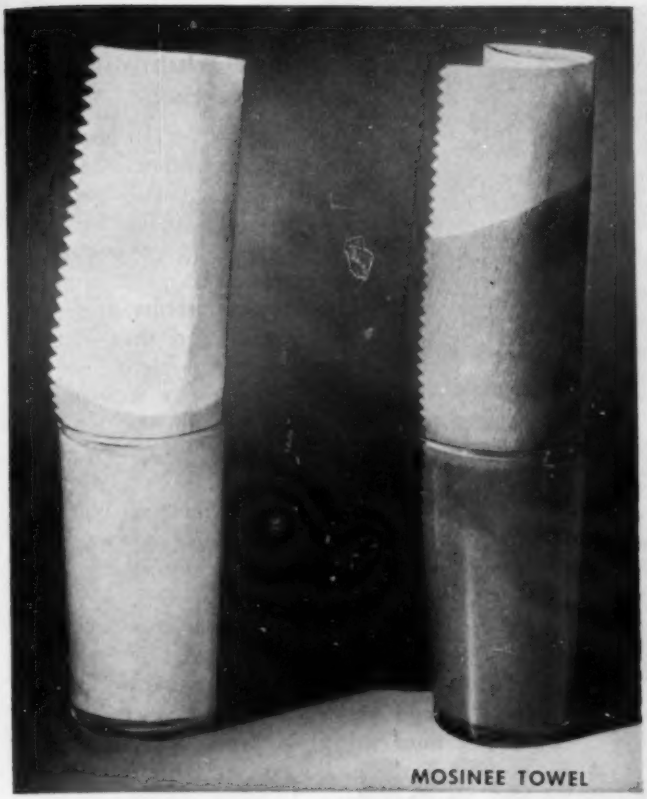
The on-campus training group will make an inventory of facilities for a possible influx of trainees, both men and women, including those available for housing, dining, athletics, military equipment, instruction, medical service, and personnel. It will plan for such programs as expansion of the Reserve Officers' Training Corps and training officers or enlisted specialists, and special programs in such fields as engineering, electronics, military law, military government, mapping, language and geography. It will also be responsible for planning to coordinate such work with a continuing program for civilian students.

Survey Provides Data of Financial Advantage

LARAMIE, WYO.—The first comprehensive study of the properties of the University of Wyoming has just been completed as a result of a project initiated more than a year ago by Dr. G. D. Humphrey, president.

In addition to revealing the fact that the university's properties in the Laramie area have a physical value of nearly $18,000,000, it also has provided data that can be used to the financial advantage of the university. As an immediate result of the survey, the university will be able to increase its insurance program by some 250 per cent, with an added cost of only 26 per cent.

The survey made an analysis of the insurance program now in effect, made recommendations for its improvement, and suggested a schedule of proper maintenance costs for all the buildings to attain their maximum use and mini-



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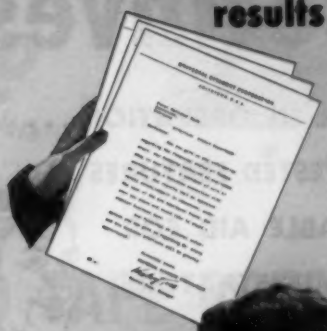

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mum depreciation. Another recommendation concerned a salvage program on the temporary buildings as they become surplus.

Reject Proposal to Merge Colleges

TRENTON, N.J.—The state board of education of New Jersery recently rejected a proposal that Rutgers Engineering College at New Brunswick be combined with the Newark College of Engineering at Newark.

John H. Bosshart, commissioner of education, stated in a report to Gov. Alfred E. Driscoll that a merger of the colleges would yield "no appreciable saving." He stated that a survey had shown that accommodations for Rutgers students in Newark would require $5,000,000 for educational and $2,500,000 for housing facilities.

Consolidation of the two New Jersey colleges was first suggested by Governor Driscoll in last year's budget message.

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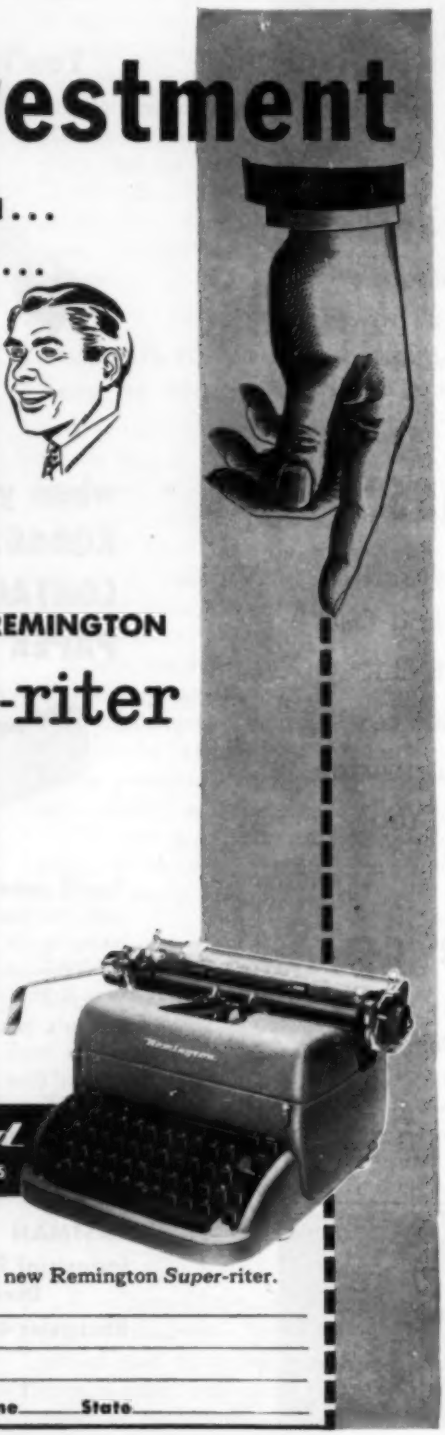

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Order Assures Aluminum for Defense Needs

WASHINGTON, D.C.—The National Production Authority, through the issuance of Order M-7, recently took action to assure aluminum supplies for national defense needs. The new regulation provides that users of aluminum may not use for nondefense purposes within each quarter more than 65 per cent of the average quarterly use of aluminum during the first six months of the year. To provide time for the necessary adjustment, this reduction will start in January. In December of this year, users of aluminum will be permitted 100 per cent of their average monthly consumption during the first six months of 1950.

The order applies to users of aluminum products and forms. It does not put any limit on production by aluminum producers or converters to aluminum forms or products or on use in the production of other metals or metal alloys. To assist small businesses, persons using less than 1000 pounds of aluminum a year are exempted from this order, according to officials of the National Production Authority.

Aluminum used for maintenance, repair and operating supplies is permitted at 100 per cent of the base period. The order imposes stricter inventory provisions by requiring that inventories of aluminum may not exceed a 60 day supply or a practicable minimum working inventory, whichever is less. Consideration will be given to possible adjustments where enforcement would bring about undue or exceptional hardship, or would not be in the interest of national defense.

$1,000,000 Gymnasium for Phillips Andover Academy

ANDOVER, MASS.—Phillips Andover Academy announced recently that construction will begin on its new $1,000,000 Memorial Gymnasium. The new structure will contain a regulation swimming pool, a separate diving and practice pool, three basketball courts, five squash courts, a wrestling room, offices and additional facilities for the academy's physical education program.

An unusual feature in the swimming pool will be a microphone at an underwater observation window. The coach will be able to detect swimming faults and by a loud speaker send corrections to swimmers and observers.

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NAMES IN THE NEWS

C. H. Franklin

Charles H. Franklin, business secretary of the Y.M.C.A. in Cleveland for the last 13 years, has been named business manager of John B. Stetson University, DeLand, Fla. He comes to his new position with 30 years of experience in Y.M.C.A. work, which involved major responsibility in a fund development program for the Cleveland Y.M.C.A.

Robert C. Koehler, director of residence halls at Oregon State College, Corvallis, has resigned in order to serve as a reserve officer with the army. His successor is **Thomas F. Adams,** who has been appointed acting director of residence halls to serve during the period that Mr. Koehler will be in service. His appointment became effective in November.

A. S. Knowles

Asa S. Knowles, vice president of Cornell University, Ithaca, N.Y., in charge of university development, has been named president of the University of Toledo. He will succeed **Wilbur W. White,** who resigned September 1 because of illness. The new president is expected to take office no later than February 1.

Richard J. Crego, a member of the business staff of the University of Rochester, Rochester, N.Y., since July 1946, has been appointed bursar of the university. Mr. Crego was named acting bursar last April, following the death of **John H. Worden,** bursar for 27 years.

John W. Taylor, president of the University of Louisville, Louisville, Ky., has been appointed deputy director-general of the United Nations Educational, Scientific and Cultural Organization. Dr. Taylor will take up his post in Paris on January 1.

Dr. Harry Woodburn Chase, chancellor of New York University since 1933, will retire next July 1. He has been granted terminal leave from January 1 and has announced that the period between January and July will be spent chiefly outside of the city of New York. Dr. Chase was president of the University of North Carolina from 1919 to 1930 and president of the University of Illinois from 1930 to 1933.

Stephen S. Nisbet, chairman of the board of trustees of Alma College, Alma, Mich., has been appointed acting president of the college to serve until a successor to **Dale D. Welch** can be selected. Dr. Welch resigned during the last year.

Mrs. A. Nelson

Mrs. Alice Nelson, director of halls of residence at Indiana University, Bloomington, Ind., has just completed 30 years of service to the university. She originally came to Indiana University as business manager of residence halls when the entire housing program, composed of three facilities housing a total of 152 students, was in operation. To-

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NEWS. . . . . .

day, Mrs. Nelson operates a $3,000,000 a year auxiliary enterprise facility.

G. O. Lindgren, business manager of the University of Kansas City, Kansas City, Mo., has accepted the appointment as administrator for Trinity Lutheran Hospital in Kansas City.

Dr. James Bryant Conant, president of Harvard University, has been elected chairman of the board of trustees of the Carnegie Foundation for the Advancement of Teaching, according to an announcement by **Oliver C. Carmichael,** president of the foundation. **Dwight D. Eisenhower,** president of Columbia University, and **Alfred Whitney Griswold,** president of Yale University, were among those who were named as trustees of the Carnegie Foundation.

C. W. Cole

Dr. Charles W. Cole, president f Amherst College, Amherst, Mass., has been elected policyholder representative of the board of trustees of Teachers Insurance and Annuity Association of America. Dr. Cole succeeds **J. Hugh Jackson,** dean of the graduate school of business administration, Stanford University.

James C. Sluss has been named president of Southwest Virginia College, located at Wise. The college opened in September with emphasis on religion as an essential part of life.

James Byron McCormick, president of the University of Arizona, Tucson, recently announced that he will resign on June 30, in order to return to private law practice.

Rev. Ellis Adams Fuller, president of Southern Baptist Theological Seminary, Louisville, Ky., died of a heart attack recently at the age of 59.

Albert J. Moeller, president of St. Paul's College at Concordia, Mo., died November 21 of a heart attack at Racine, Wis., while attending a plenary session of the board of higher education of the Lutheran Church, Missouri Synod.

CORRECTION:

Stevens Institute of Technology was credited in this magazine with having recently received a gift of $900,000. The gift was incorrectly reported; it amounted to $9000.

DIRECTORY OF ASSOCIATIONS

Association of College and University Business Officers

Central Association
President: John K. Selleck, University of Nebraska; secretary-treasurer: C. C. De Long, University of Illinois.

Eastern Association
President: H. R. Patton, Carnegie Institute of Technology; secretary-treasurer: Irwin K. French, Middlebury College, Middlebury, Vt.

Southern Association
President: Jamie R. Anthony, Georgia Institute of Technology; secretary-treasurer: Gerald D. Henderson, Vanderbilt University.
Convention: March 29-31, University of Chattanooga, Chattanooga, Tenn.

Western Association
President: Elton D. Phillips, University of Southern California; secretary-treasurer: James M. Miller, University of California.
Convention: May 21 and 22, Santa Barbara, Calif.

American Association
President: W. A. Hamilton, Lincoln University; secretary: L. H. Foster Jr., Tuskegee Institute.
Convention: May 7 and 8, Virginia State College, Petersburg, Va.

Association of College Unions

President: Duane E. Lake, University of Nebraska; secretary-treasurer: Edgar A. Whiting, Cornell University; editor of publication: Porter Butts, University of Wisconsin.
Convention: April 25-28, Michigan State College, East Lansing.

Association of Physical Plant Administrators of Universities and Colleges

President: E. J. Behler, Yale University; secretary-treasurer: A. F. Gallistel, University of Wisconsin.
Convention: May 14-16, University of Oklahoma, Norman.

American College Public Relations Association

President: Stewart Harral, University of Oklahoma; secretary-treasurer: James W. Armsey, Illinois Institute of Technology, Chicago.

College and University Personnel Association

President: Boynton S. Kaiser, University of California; secretary-treasurer: Ruth Harris, University of Illinois.
Convention: July 15-18, Pennsylvania State College.

National Association of College Stores

President: Ralph Stilwell, UCLA; executive secretary: Russell Reynolds, Box 58, 33 West College Street, Oberlin, Ohio.
Convention: April 29-May 2, Columbus, Ohio.

National Association of Educational Buyers

President: Rev. J. Leo Sullivan, S.J., College of the Holy Cross; executive secretary: Bert C. Ahrens, 45 Astor Place, New York, N.Y.
Convention: May 2-5, Statler Hotel, Detroit.

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Physical Plant Administration—Graduate licensed engineer; experience in fire protection engineering and college plant maintenance, operation, development planning, and construction supervision. Write Box CW22, COLLEGE AND UNIVERSITY BUSINESS.

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University of Tennessee	*Knoxville*
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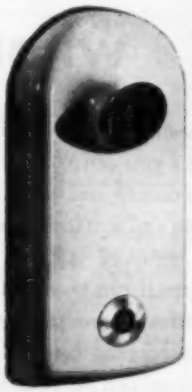

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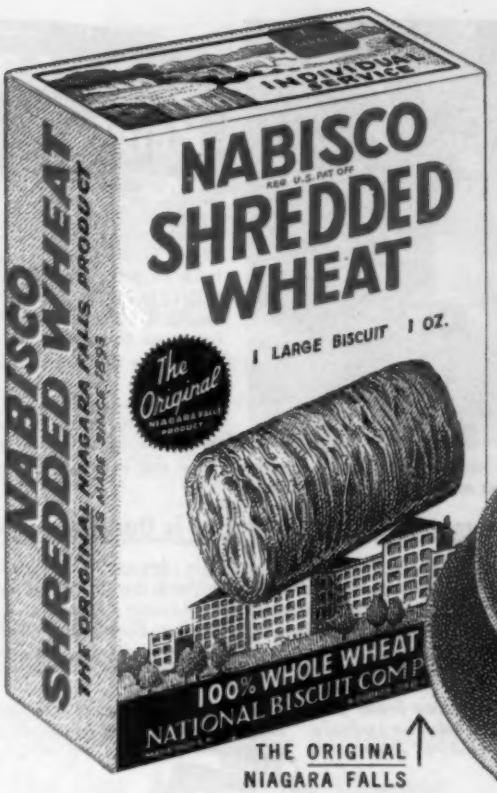
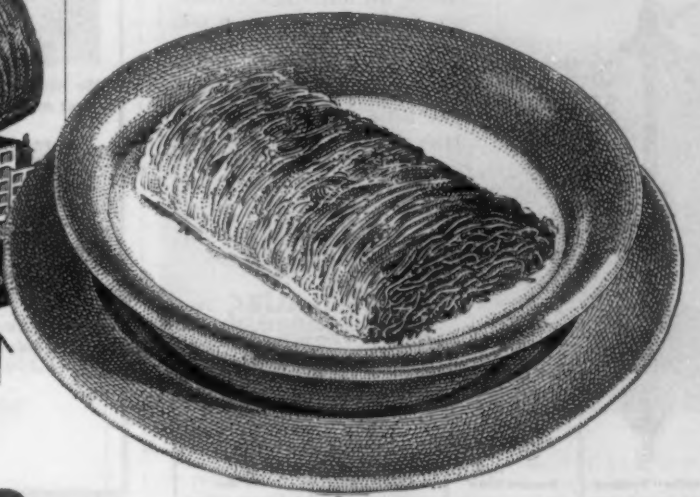
CHICAGO 6, ILL.



THE ORIGINAL NIAGARA FALLS PRODUCT

Cut your food cost... with Nabisco



NEW! One Biscuit Package

. . . new idea in cereal service!

Lowest cost per serving

You serve just *one* biscuit of shredded wheat in NABISCO's new individual service package. At about 2¢ per serving it costs you less to buy and serve than *any* package of two biscuits!

The right portion—no waste

Each one-biscuit serving weighs just *one ounce*—the amount most people eat at home, and the amount the government recommends. Why serve more, when it's usually wasted? No leftovers!

Save sugar and cream, too

Most people tend to use much more cream and sugar for two biscuits—especially when they eat them one at a time. With NABISCO's new package, only the usual amount is used. That's another important saving!

The old-time favorite!...

Serve the large shredded wheat that is preferred in your patrons' homes! NABISCO has the *right* product, in the *right*-size portion, in the *right* package, and at the *lowest cost per serving*. Better stock up now!

A PRODUCT OF NATIONAL BISCUIT COMPANY

NATIONAL BISCUIT COMPANY, Dept. 39, Niagara Falls, N. Y.
Please send your booklet "Around the clock with NABISCO."

Name..... Title.....

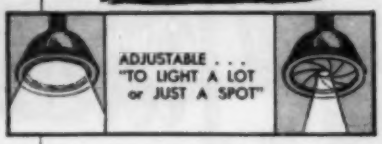
Organization.....

Address..... City..... State.....

VENTILATED METAL SHADE
SWIVEL JOINT PERMITS SWINGING REFLECTOR TO FULL VERTICAL POSITION
UNIQUE IRIS DIAPHRAGM ADJUSTS INTENSITY OF LIGHT FROM PIN POINT TO FLOOD
OUTLET FOR EXAMINING INSTRUMENTS, RADIO, ETC.
NITE LITE BELOW MATTRESS LEVEL
STATUARY BRONZE FINISH
HEAVILY WEIGHTED 12" Diameter BASE
6 FOOT CORD UNDERWRITERS' APPROVED

NEW... COMPLETELY DIFFERENT

The Hospital Floor Lamp with the IRIS EYE

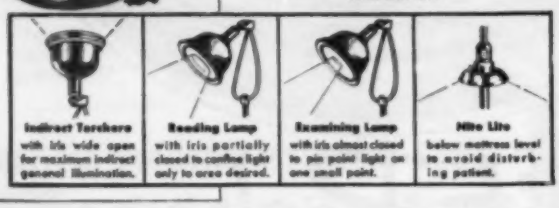


No. 1225-8P
FLOOR LAMP
$24.00
Not including outlet at Nite Lite

Price subject to change without notice.

Unique iris diaphragm adjusts light to any degree between pin point and full flood. With iris almost closed, light is concentrated on one small point. With iris wide open, full general illumination is obtained. Shade can be swung to any position. All metal construction; Statuary bronze finish. Comes complete with 60 watt bulb, 6 foot extension cord, and 7½ watt bulb for nite lite.

EICHENLAUBS
For Better Furniture
3501 BUTLER ST., PITTSBURGH 1, PA.
ESTABLISHED 1873



Indirect Torchere with iris wide open for maximum indirect general illumination.

Reading Lamp with iris partially closed to confine light only to area desired.

Examining Lamp with iris almost closed to pin point light on one small point.

Nite Lite below mattress level to avoid disturbing patient.

EXPERT Helpfulness!

Consider the DON representative as more than a salesman. He comes to sell, yes—but he can be of much help in advising or suggesting EQUIPMENT, FURNISHINGS and SUPPLIES. These labor aiding items can help you turn out more work faster and better, shorten food preparation time, save on fuel and otherwise prove to be a good investment. Welcome this man who specializes in our helpful service. He keeps you informed on what's new and may aid you in getting what may become scarce items.

Every DON Representative is Our Ambassador!

Each DON Salesman carries in his car our FIVE catalogs listing everything needed for the operation of all departments of Hotels, Clubs, Restaurants, Resorts, Schools, Colleges, Camps, Hospitals, Lounges, Taverns, Fountains, Diners, etc. His briefcase is fact-packed with what's needed for places where people eat, sleep, drink or play.

A line from you will bring a DON representative and the whole "DON Store" to your door!

EDWARD DON & COMPANY

2201 S. LaSalle St. • Dept. 6 • Chicago 16, Ill.

HOME ECONOMICS FURNITURE

...to meet all needs
...to last for decades

It's an easy matter to buy ALL home economics furniture from one source, by coming to Walrus. You can make your selection from our catalog picturing tables, cupboards, mirrors, fitting platforms, ironing board cabinets, wardrobes, and other items.

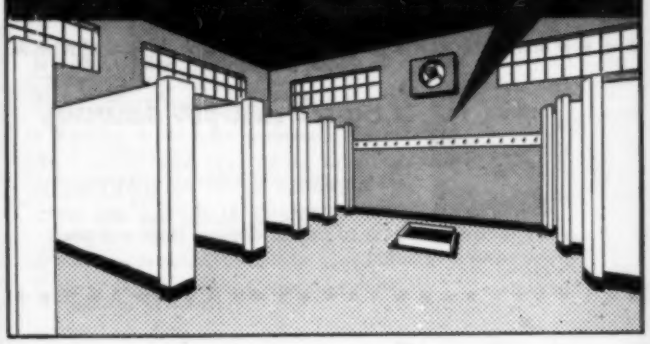
These products are all well designed for practical use and long life. May we send you free catalog?

WALRUS MANUFACTURING COMPANY
DECATUR ILLINOIS

WALRUS ALSO MAKES

- laboratory furniture
- library furniture
- domestic science equipment
- manual training equipment
- soda fountains
- steam table units
- heavy-duty kitchen equipment

Eliminate paint problems in locker and shower rooms!

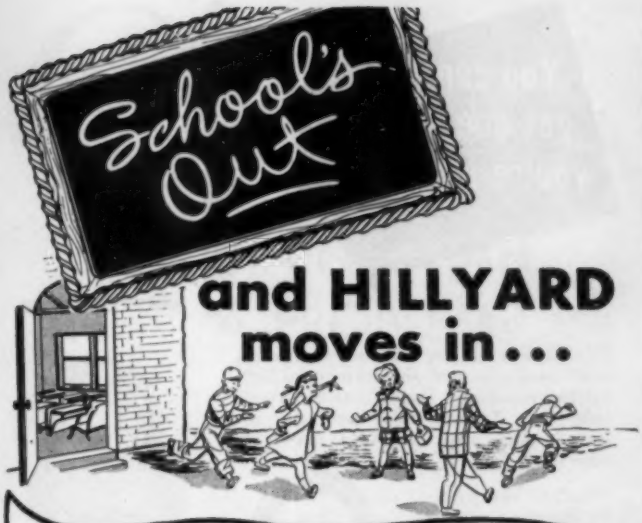


Wherever you have paint problems due to moisture, they can be solved completely and economically with RAMUC* MILDEW-PROOF ENAMEL. Made especially for the purpose, this long-lasting enamel has a waterproof, chlorinated rubber base that withstands continuous exposure to steam and hot water — never blistering, peeling or fading.

Mildew-proof, easy to clean!

Furthermore, RAMUC contains a special fungicide that actively prevents the formation of mildew and eliminates musty, unsightly growths. Its hard, tile-like finish makes cleaning easy, too. Scrubbing and caustics will never dull RAMUC's smooth, sparkling appearance. And because one application lasts for season after season, you enjoy real dollar savings! For full information, write for Folder #582, *today!* **Trademark*

INERTOL CO., INC.
480 Frelinghuysen Ave., Dept. C, Newark 5, N. J.

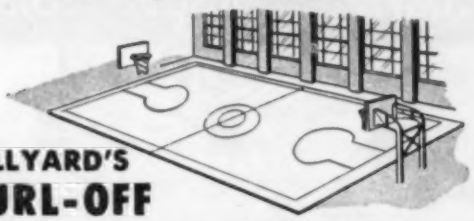


To Give Floors and Desks their Mid-Year Shine-Up!

Hillyard's Super SHINE-ALL
The One All-Purpose Cleaner Safe for all Surfaces!

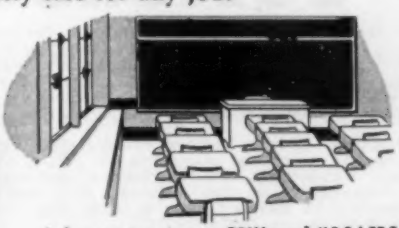
Cleans and preserves floors, woodwork in one easy application. No rinsing. Leaves lustrous, slip-resistant surface.

For a thorough mid-year clean up, and for regular year 'round maintenance, always use HILLYARD'S Super SHINE-ALL.



HILLYARD'S KURL-OFF Paint and Varnish Remover

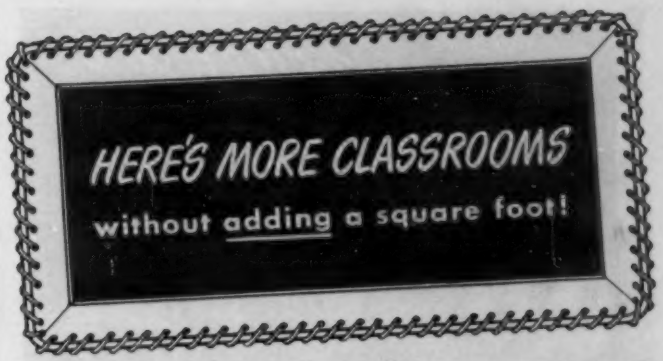
Zips old paint, varnish, shellac and grime from floors and furniture instantly, when other agents fail. Requires no after-rinse. KURL-OFF is non-inflammable, non-injurious ... absolutely safe for any job.



Ask your nearest Hillyard "MAINTAINEER" about Hillyard products today ... or write direct to

HANDLE WITH HILLYARD CARE!

St. Joseph, Missouri
BRANCHES IN PRINCIPAL CITIES.



Need schoolrooms? They may be found in your present buildings. Many school authorities are using "Modernfold" accordion-type doors to convert little used space in basements, lunchrooms, corridors and auditoriums into schoolrooms—at very little cost.

Just see how this "movable wall" divides such an area into separate classrooms. Yet, when the original use demands all the space, the "Modernfold" doors are easily and quickly folded against the walls.

Ideal for Other School Uses Use "Modernfold" doors also as closures for wardrobes ... to replace the commonly used stage curtain in auditoriums ... in offices and teachers' rooms.

Beautiful Appearance ... Maintenance Saver

Whether you use "Modernfold" doors to divide rooms or to replace swinging doors to save space, your school gains in appearance. Vinyl coverings come in lovely colors to blend with any decorative scheme. They're flame-resistant ... won't chip, peel or fade ... and wash easily with soap and water. Maintenance is practically nil. The steel frame under this durable covering promises years of smooth, dependable service.

"Modernfold" doors are sold and serviced nationally by our installing distributors. You'll find the name of your distributor under "doors" in your classified phone book. See him for full details ... or mail coupon.

Sold and Serviced Nationally

NEW CASTLE PRODUCTS
New Castle, Indiana

In Canada:
Modernfold Door Company of Canada, Limited, Montreal

the doors that fold like an accordion

modernfold doors

by NEW CASTLE

NEW CASTLE PRODUCTS
P. O. Box 935
New Castle, Indiana

Gentlemen:

Please send me full details on "Modernfold."

Name.....

Address.....

City.....County.....State.....

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HERRICK *Performance-Proved* REFRIGERATORS

WITH STAINLESS STEEL EXTERIORS AND INTERIORS

HERRICK gives you complete food conditioning, plus stainless steel inside and out. HERRICK stainless steel is not a plated finish, but a solid metal. It will not chip, crack or peel. It is impervious to food acids. For the ultimate in beauty, sanitation and permanence, insist on a HERRICK *Stainless Steel* refrigerator. Write for name of nearest supplier.

HERRICK REFRIGERATOR CO. • WATERLOO, IOWA

DEPT. C COMMERCIAL REFRIGERATION DIVISION

HERRICK *The Aristocrat of Refrigerators*

You can't get one unless you're identified

MASTER-KEYED P-570

The Dudley Master Key, shown above, can't be duplicated on commercial key-cutting machines. Duplicates are available only from Dudley and are released only after absolute proof of authority.

Whether you prefer Master-Key or Master-Chart locker control, you make sure of long, trouble-free service when you specify Dudley Locks for all lockers.

MASTER-CHARTED RD-2

Write for Catalog Folder with details on these top quality locker padlocks . . . and on built-in S-540, the Master-Keyed Lock with 15-second combination change.

DUDLEY LOCK CORPORATION

570 WEST MONROE STREET, DEPT. 1222
CHICAGO 6, ILL.

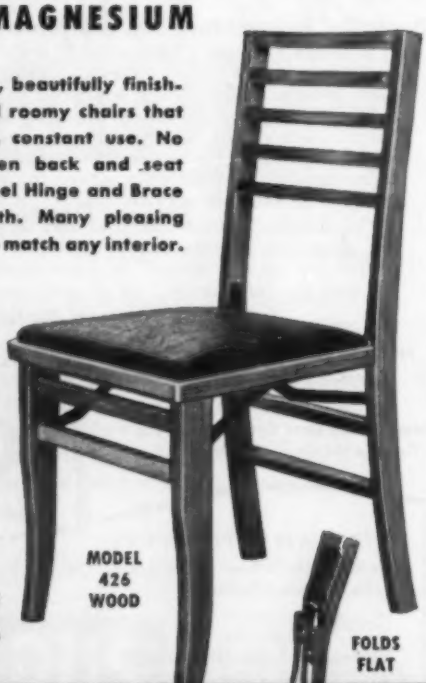
CHAIRS *that Fold*

WOOD or MAGNESIUM

SMARTLY STYLED, beautifully finished, comfortable and roomy chairs that fold. Built for hard, constant use. No glued joints between back and seat frame. Rastetter Steel Hinge and Brace gives extra strength. Many pleasing styles and finishes to match any interior.

Fold compactly. Store in small space.

A complete line. Wood and Magnesium Models. Ask for catalog.



MODEL 426 WOOD

FOLDS FLAT

THE SOLID KUMFORT FOLDING CHAIR
REG. U.S. PAT. OFF.

LOUIS RASTETTER and SONS CO.

1326 WALL STREET • FORT WAYNE 1, INDIANA
ESTABLISHED 1881 • FINE FURNITURE THAT FOLDS

Start! Stop! Start!

Speed & Safety for your Gym Floors

DOLCOROCK

The faster the game, the more frequent the sudden stops and starts. With DOLCOROCK floor surfacing, your players can "pivot on a dime" and take off again *instantly*—safe from dangerous slip and slide. DOLCOROCK's *high coefficient of friction* provides this combination of *speed* with *safety*—gives confidence to players and more enjoyment to spectators.

DOLCOROCK is a lustrous, eye-appealing finish, correct for hardwood, cement or magnesite. It's like a layer of clear quartz, standing up under the hardest gym use. Virtually impervious to grease, dirt, ordinary acids and alkalies . . . economical to maintain. For an attractive, "fast" and SAFE gym floor, choose DOLCOROCK!

Write for booklet "Floor Maintenance" containing detailed facts on DOLCOROCK

dependable DOLGE

WESTPORT, CONNECTICUT

Q. IS YOUR DINING HALL A PROBLEM?

A. NOT SINCE CROTTY BROTHERS TOOK OVER

This is the answer you would get from several well-known colleges and prep schools. For they have found that under today's conditions, running a restaurant is a business for restaurant people . . . that the simple solution to the problem is to put the job entirely in the hands of Crotty Brothers Food Services.

This provides a complete, Crotty-trained staff under administrative direction and assures excellent food, efficient operation and much needed continuity of responsible management. Write for particulars to

CROTTY
BROTHERS INC.
OPERATING IN 18 STATES AND 45 CITIES

137 NEWBURY STREET, BOSTON 16, MASS.
111 WEST WASHINGTON ST., CHICAGO 2, ILL.
303 SOUTHLAND ANNEX BLDG., DALLAS, TEX.

FOOD SERVICE MANAGEMENT SINCE 1930

VISIBILITY Unlimited

...in MICHAELS DISPLAY CASES

Michaels "Time-Tight" Cases not only offer maximum visibility, but actually accentuate the beauty of exhibits. These cases are made of extruded bronze or aluminum, and are outstanding in appearance and quality. Innerlocking frames, an exclusive Michaels feature, prevent handling and theft, and reduce the amount of dusting necessary to keep exhibits clean. Cases are made in several styles; there are table cases, wall, aisle, suspended and recessed cases in sizes to meet every requirement. Michaels numbers among its customers many colleges and universities. Write for fully illustrated booklet.

MUSEUM CASE DIVISION OF

The MICHAELS ART BRONZE CO., Inc.
COVINGTON, KENTUCKY

Manufacturers since 1870 of many products in Bronze, Aluminum and other Metals

Hasco ALL STEEL GENERAL UTILITY BED

WITH *Artline* TUBULAR ENDS

Ends fabricated of 1¼" heavy gauge Artline tubing with four fillers and double ribbed cross rod firmly butted and welded to insure rigidity.

Equipped with high riser twisted link galvanized fabric spring. Head height 36". Foot height 28". Mounted on 2" casters. Inside measurement 3ft. x 75". Spring height 17".

Finished in Brown (Walnut) enamel.

Ideal for Sleeping Accommodations such as Dormitory, Internes and Nurses Quarters.

No. MA 1201 **$20.25 Each**

$19.75 Ea. in Lots of 12 or more

White or Ivory or any other Flat Enamel Finish $1.00 per bed additional

For Wood Graining add $2.00 per bed

F.O.B. Utica, N. Y. or St. Louis, Mo.

COMPLETE LINE OF SLEEP EQUIPMENT FURNITURE DIETITIAN SUPPLIES

SERVING INSTITUTIONS FOR OVER 25 YEARS

HAROLD SUPPLY CORPORATION

100 Fifth Avenue, New York 11, N.Y.

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PEABODY TABLET-ARM CHAIRS

In the New "SUN-TAN" Color

Here's just what students want in a recitation or lecture room chair—real comfort—a rigid tablet arm—and a bright, cheery Sun-Tan color.

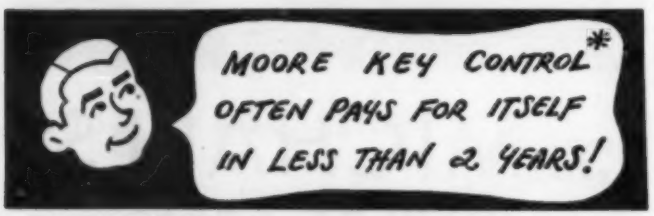
Behind all this are sound construction and quality materials to insure long service under most demanding conditions.

Write today for complete details on sizes—construction—prices—shipping—etc., to

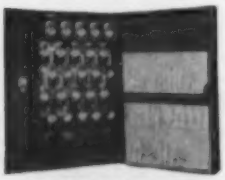
Chair No. 315 University

THE PEABODY SEATING COMPANY, INC.

BOX 23, NORTH MANCHESTER, INDIANA



You owe it to yourself to investigate this modern system of key control. It saves money year in and year out by eliminating expensive repairs and replacement of locks and keys. What's more, it guarantees security, convenience and privacy. No wonder Moore Key Control is used throughout schools, institutions, hospitals, industry, government, transportation, communications, housing . . . wherever keys are used. Send for details today!

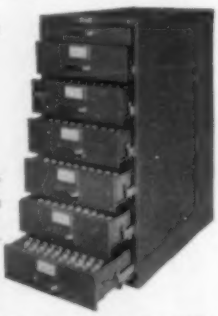


COMPLETE SYSTEMS FOR EVERY NEED

Wall cabinets of every size from $27.45 up

Section of a typical control panel

Drawer file cabinets



*TELKEE ®TRADE MARKS

Mail Coupon today for Free Booklet

P. O. MOORE, INC., Dept. C-2
300 Fourth Ave., New York 10, N. Y.

Please send booklet, "The Missing Link," describing MOORE KEY CONTROL.

Name.....

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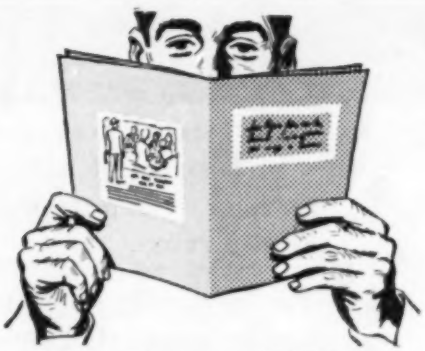

Your Responsibilities

A guide for Trustees and Administrative officials

You may obtain a free copy of this valuable booklet prepared by Insurance Company of North America. Trustees and Administrative officials of schools, colleges, universities, hospitals, churches, homes and similar educational or charitable organizations will find it a great help in the review of their responsibilities.

The booklet cites court decisions defining Trustee responsibilities for the preservation of properties, funds and assets. It explains the important role insurance plays in protecting you as you carry out your responsibilities, both legal and moral.

For your copy of this booklet, see the local Agent of any one of the North America Companies. If you do not know who he is, write us, and we'll be glad to introduce you.

1792 PROTECT WHAT YOU HAVE

Insurance Company of **North America** Companies, *Philadelphia*

Insurance Company of North America
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CORBIN

No. 85 — Cast bronze — combination type. The combination can be readily changed — 3⅜" wide, 5" high, 14" deep — outside measurements.

No. 50 — Cast bronze — Corbin pin-tumbler lock — each lock with different key change. Size as No. 85 above.

KEY OR KEYLESS LETTER BOXES FOR SCHOOLS and COLLEGES

For efficient handling and low cost distribution of mail to the administrative staff and students, specify CORBIN letter boxes.

Made in 4 different sizes for varied requirements and arranged to fit available space.

Letter boxes are furnished with either pin tumbler locks (keyed) or with (keyless) automatic combination lock for easy operation, convenience and maximum security.

Furnished in sections, completely assembled, with pigeonholes — ready for service.

Complete plans and elevations of your requirements will be furnished without expense or obligation to you.

Write today for the free copy of the illustrated pamphlet (LB) describing letter boxes.

Corbin Cabinet Lock
WOOD PRODUCTS DIVISION
THE AMERICAN HARDWARE CORPORATION
New Britain, Connecticut

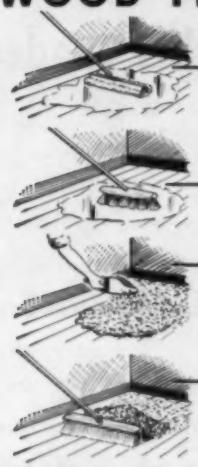
Refinish WOOD FLOORS WITHOUT SANDING . . .

The Holcomb SYSTEM OF SANDLESS WOOD FLOOR REFINISHING

CHEMICALLY REMOVES
VARNISH, SHELLAC, PAINT, LACQUER, SEALS, GYM FINISH

A Spectacular Development by the Holcomb Research Laboratories in the

CHEMICAL REMOVAL OF WOOD FLOOR SEALS . . .



1 Just apply the "SEAL REMOVER" with wool applicator.

2 Scrub with stiff scrubber or floor machine.

3 Sprinkle on the "SEAL ABSORBENT" until wetness is absorbed.

4 Then simply sweep up Absorbent containing the old floor finish.

SAVES OLD OR CUPPED FLOORS WHICH CANNOT BE SANDED AGAIN

- Removes the old finish chemically.
- Fast - Easy - Safe.
- Will not damage any wood floor.
- Costs only a fraction of sanding.
- Sold in combination kit only.

NON-INFLAMMABLE

Approximately 100 sq. ft. Coverage Per Gallon

J. I. HOLCOMB MFG. CO.
Barth and Palmer Streets, Indianapolis 7, Ind.
NEW YORK 18, N. Y. INDIANAPOLIS 7, IND.

65 footcandles in accounting office from Grenadier IIs 6' on centers.

70 footcandles for general office from Grenadier IIs 6' on center.

55 footcandles for executive office from Grenadiers in two rows.

75 footcandles for mimeo room from Grenadiers with 5'6" spacing.

Here's Why *Wakefield* Grenadiers were chosen for this modern office installation

Because ruggedly-built Grenadiers provide abundant light that diffuses pleasantly from white enameled louvers and plastic side panels, achieving excellent illumination levels and low brightness contrasts.

Because Wakefield fixtures are easy to install—can be hung by one man. Sections hook securely to a pre-installed strap, then channel covers, lamps, louvers and side panels go up in turn. In addition to making installations easier, this assembly method is a permanent aid to maintenance.

Wakefield Grenadiers are available for use with two or four 40W bipin or Slimline lamps.

THE F. W. WAKEFIELD BRASS COMPANY • VERMILION, OHIO

Wakefield

Over-ALL Lighting

GRENADIER STAR COMMODORE WAKEFIELD CEILING

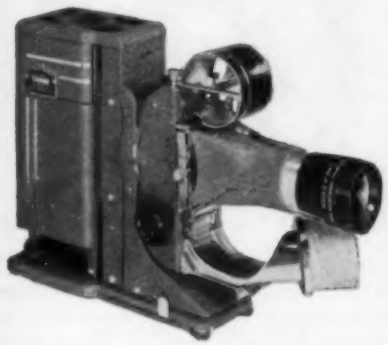
WHAT'S NEW

December 1950

Edited by Bessie Covert

TO HELP you get more information quickly on the new products described in this section, we have provided the postage paid card opposite page 80. Just circle the key numbers on the card which correspond with the numbers at the close of each descriptive item in which you are interested. COLLEGE and UNIVERSITY BUSINESS will send your requests to the manufacturers. If you wish other product information, just write us and we shall make every effort to supply it.

Improved Slide Projector



The S.V.E. Model AAA projector for filmstrips and 2 by 2 inch slides has a new threading device which prevents tearing of film. It is a "slip-in" style threading by which the film fits into a channel on the aperture assembly and engages the sprocket teeth for quick, smooth threading and film protection. The new model, known as Model AAA-2, also has a lock for positive locking of the film gate. It is finished in an attractive gray color and a sturdy carrying case is also available. A kit containing all parts and directions for installing the new threading device on older models can be obtained from the manufacturer. **Society for Visual Education, Inc., Dept. CUB, 1345 W. Diversey Pkwy., Chicago 14. (Key No. 1)**

Automatic Stacker

The heavy-duty, electrically driven Model 450 mimeograph is now equipped with an automatic stacker. A combination receiving tray and copy stacker, the mechanism stacks copies precisely in the receiving tray, making them ready for wrapping, padding or delivery to folding equipment. When copies are to be mimeographed on both sides, the paper stack can be removed from the receiving tray and immediately loaded on the feed table as a result of the automatic stacker. **A. B. Dick Co., Dept. CUB, 5700 W. Touhy Ave., Chicago 31. (Key No. 2)**

Antiseptic Liquid Hand Soap

Chlorinated diphenyl methane compound, hexachlorophene, is used in a new antiseptic liquid hand soap developed by the West Disinfecting Company for the special use of food handlers and other institutional workers. The soap contains lecithin, an emollient and skin-softener to help reduce skin irritations caused by frequent hand washing. It also increases the cleansing power of the soap. Known as West Antiseptic Soap, the product is said to have a cumulative antibacterial effect when used exclusively and often. **West Disinfecting Co., Dept. CUB, 42-16 West St., Long Island City 1, N. Y. (Key No. 3)**

Royal Portable Typewriter

The 1951 Royal Portable Typewriter is available in two new models, the new Quiet DeLuxe and the Arrow. Both models have several important features, among them the new "Magic" Margin system for both left and right margin, operated by convenient new black plastic

control buttons. The machines have a new plastic key Speed King Keyboard which is identical with the Royal office typewriter in positioning of letter keys and control keys and in all dimensions, including key size and slope. This permits easy transition by students and others from the standard to the portable machine.

Triple spacing, an adjustable paper support, "Picture Window" writing line visibility, a paper lock scale synchronized with all other scales on the typewriter, and redesigned, larger carriage control levers are other improvements on the portable models. An Automatic Carriage Centralizer automatically moves the carriage to center position as the lid of the new Contour Case is closed. The case is a tapered, tweed-patterned luggage-type carrier. The curved surfaces increase both durability and attractiveness. **Royal Typewriter Co., Inc., Dept. CUB, 2 Park Ave., New York 16. (Key No. 4)**

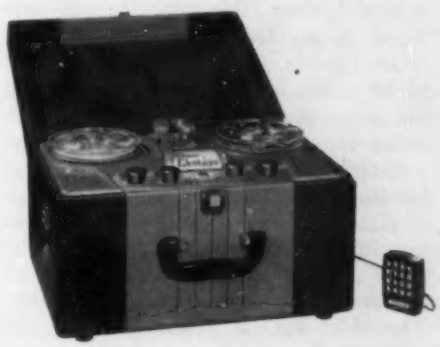
Power Sweeper

A new type, vacuum-equipped power sweeper is now available which is operated by one man riding on the unit. It is especially designed for high speed sweeping of gymnasiums, halls, walks, stadiums and other areas both indoors and outdoors. A 24 inch wide brush revolves inside a sealed compartment and throws dirt and litter into an enclosed, built-in hopper while a powerful vacuum fan draws dust into a heavy fabric bag. Thus extra clean sweeping is accomplished and all dirt and trash are picked up with the one operation.

A 2 speed transmission gives the sweeper a wide operating range to handle all conditions. The sweeper is equipped with front wheel steering, both foot and parking brakes and sealed ball and roller bearings throughout. Various types of brushes are available. **G. H. Tennant Co., Dept. CUB, 2530 N. 2nd St., Minneapolis 11, Minn. (Key No. 5)**

Portable Tape Recorder

The Ekotape Pla-mate is a new portable tape recorder having 3¾ inch per second tape speed and twin track recording which gives two hours of playing time with a 7 inch reel or one hour playing time with a 5 inch reel. The unit is small, light in weight and easy to handle. It is easily operated with one central control selecting tape speed and direction. A separate record-playback control eliminates the possibility of accidental erasing. It comes complete with microphone, cord and one 5 inch reel of



tape in an attractive carrying case. **Webster Electric Co., Dept. CUB, Racine, Wis. (Key No. 6)**

Vu-Lyte Opaque Projector

The new Vu-Lyte opaque projector is designed to provide smooth, continuous, positive projection, either horizontally

or vertically, of subjects, from the size of a postage stamp up to an 8½ by 11 inch page, without darkening the room. Copy is held flat by suction on the Vacumatic Platen, thus eliminating the need for picture holders. The Feed-O-Matic Conveyor, another feature, handles varied or continuous scroll copy without having to raise or lower the platen to insert copy. The Pointex Projection Pointer allows the operator to superimpose an arrow on any part of the illustration without leaving the machine.

The Vu-Lyte is provided with a fully-coated anastigmat lens mounted in an anodized aluminum barrel. It is light in weight and compact. Spring-loaded elevating legs, rack-and-pinion focusing mount and other features help to give sharp, well-placed images and full-field illumination. Comparative material may be projected simultaneously and separate lines or other portions of the image may be isolated for close inspection. **Charles Beseler Co., Dept. CUB, 60 Badger Ave., Newark 8, N. J. (Key No. 7)**

Folding Table

A variety of needs can be served with a new folding table with ¼ inch tempered Midtex hardboard top. The table is available in 30 to 36 inch widths and in 48 to 96 inch lengths. The rugged top is supplied in natural blond finish unless brown is specified and it provides a smooth surface without screws or rivet heads. The automatic folding legs lock in place and are recessed so that they do not interfere with seating around the table. All moving parts of the mechanism are concealed within welded tubes. The tables stack in a minimum of space and can be used to convert areas for study, lunchroom use or other purposes. **Midwest Folding Products, Dept. CUB, 1844 W. 14th, Chicago 8. (Key No. 8)**

Maintenance Unit

The Shopsmith is a power maintenance unit which can be converted into an 8 inch circular saw with extension table, a 15 inch vertical drill press, a 33 inch lathe, a 12 inch disc sander or a horizontal drill press. It occupies only 18 by 60 inches of floor space. Accessories can be added to convert the Shopsmith into a jointer, shaper, drum sander, mortiser, jigsaw or other power tool. **Magna Engineering Corp., Dept. CUB, 417 Montgomery St., San Francisco 4, Calif. (Key No. 9)**

Venetian Blind Cleaner

Easy cleaning of venetian blinds is accomplished with a simple new device recently introduced. Either flat or curved slats can be cleaned with a single movement with the inexpensive device. The unit consists of a patented plastic, spring-action pair of jaws fitted with pads of foam rubber which provide the actual cleaning surfaces. In operation, the cleaner is dipped in any cleaning detergent, the jaws are slightly compressed to remove surplus moisture, and then passed over the blind slat. **Alred Industries, Dept. CUB, 8203 S. Avalon Blvd., Los Angeles 3, Calif. (Key No. 10)**

Improved Time-Master

Time-Master dictating machines and accessories have been improved in several respects. Magnesium is used to make outer casings, base plates and internal parts, thus reducing the weight of the machine which is completely portable. The new hand-held microphone is a complete control center for the user. A turn of the switch on the microphone permits dictation or instant playback, as

desired. The tilting head permits comfortable dictation with the hand held in a natural position.

Of particular interest is the new non-directional lapel microphone approximately 2 inches in diameter which has 25 feet of microphone cable for special recording, and the new chest microphone with plate and neck band and tilting head permitting high-fidelity recording. The chest plate may be used as a base if the microphone is used on a desk. The executive desk microphone is designed for high-fidelity pick-up, natural voice reproduction and attractive appearance. The new seamless Memobelt recording medium is extruded plastic. **Dictaphone Corp., Dept. CUB, 420 Lexington Ave., New York 17. (Key No. 11)**

AO Phase Microscope

Phase microscopy permits the study of living organisms as well as other transparent materials of inherently low contrast. The new series of AO Spencer

Phase Microscopes has monocular and binocular bodies and incorporates many improvements over original models introduced by the company. Phase turret condensers with interchangeable annular diaphragms are now available in hardened steel, centerable mount. The mount is firmly held so that it cannot tilt. Long focus annular diaphragms are also offered. The control knobs have been lowered to a more comfortable position nearer the stage. The ball bearing fine focusing adjustment is responsive to the lightest touch and is accurate throughout its entire range of travel.

Several other new technical features make the line of particular interest. Overall weight has been reduced by use of an aluminum arm and body but the instruments are engineered for increased rigidity and long life. **American Optical Co., Scientific Instrument Div., Dept. CUB, Buffalo 15, N. Y. (Key No. 12)**

Maintenance Utility Cart

Maintenance or housekeeping duties can be facilitated with the new institutional cleaner's utility cart No. 2 recently developed. A light weight, highly flexible cart for general use, it is made of metal tubing with heavy gauge galvanized metal shelves. Attached to the end is a large bag which can be easily emptied and laundered after use.

The cart has a large general section with holders for 6 brooms or cleaners and 2 brushes and three small shelves for carrying attachments, cleaning fluids, soaps, rags, paper towels, toilet and bathroom requirements, plumbing and electrical supplies and tools or other equipment desired. The cart is inexpensive, is mounted on rubber wheels and has rubber bumpers. It is 41½ inches high, 34 inches long and 24 inches wide. **Gennett & Sons, Inc., Dept. CUB, Richmond, Ind. (Key No. 13)**

Vacuum Cleaner

Maximum portability is offered in the new vacuum cleaner for both wet and dry pick-up which has recently been introduced by General Electric. The new model, AVI-909, is a medium capacity machine with universal-type, 115 volt motor, sealed for protection from water damage when used for wet pick-up. A separate system permits continuous operation.

The machine has capacity for a heavy-duty cleaning job as the tank holds 1¾ pecks of dry dirt or 3¾ gallons liquid. A rubber bumper surrounds the base of the tank to protect walls and furniture and the unit weighs only 32 pounds. It is finished in two-tone gray with chrome fittings and comes equipped with a complete set of attachments. **General Electric Co., Appliance & Merchandise Dept., Dept. CUB, 1285 Boston Ave., Bridgeport 2, Conn. (Key No. 14)**

Trimline Lighting

Matching fluorescent lighting fixtures of different lengths which can be joined together to give the appearance of one long sweep of light have recently been announced. Known as the Trimline two and four lamp fixtures, there are 13 individual units, each equipped with louver shielding, decorative end pieces and plastic sheilding panels.

Known as CL, the series comes with either standard start or instant start lamps, with either 25 or 45 degree lengthwise shielding. The series is designed to meet the requirements of all types of school and office lighting. **Sylvania Electric Products Inc., Dept. CUB, 1740 Broadway, New York 19. (Key No. 15)**

Business Machines

Announcement has been made of several new and improved products in the line of business machines offered by International Business Machines Corporation. These include a card verifier which incorporates automatic verification and signals the operator when it has detected an improperly punched card; a dual-feed carriage for simultaneously preparing two closely related documents requiring different form spacing; a lightweight electric time stamp which can be applied to any surface on which an imprint is desired; a new electric formswriter with complete operating controls for typing continuous fanfold or open-web forms with speed; a new electric typewriter with decimal tabulation to facilitate typing columns of figures, and two new type faces for the executive model of the IBM electric typewriter. **International Business Machines Corp., Dept. CUB, 590 Madison Ave., New York 22. (Key No. 16)**

Product Literature

• How to select labor-saving products to cut maintenance costs is discussed in the new **"Modern Maintenance"** catalog recently issued by Hillyard Chemical Co., St. Joseph, Mo. The 48 page, 2 color book uses text and illustrations to show the uses of more than 100 specialized products and the results obtained with them. The products include cleaners, waxes, seals, finishes, dressings, deodorants, antiseptics and germicides as well as cleaning equipment ranging from squeeges to machines for cleaning and polishing. **(Key No. 17)**

• A comprehensive catalog on **"Kardex Visible Record Control"** has recently been published by Remington Rand Inc., 315 Fourth Ave., New York 10. The new 80 page catalog has been completely revised and brought up to date in the matter of all phases of the Kardex Visible Control principle. Included are data on the various combinations of record forms, the variety of colored signal control methods and new computing charts. **Key No. 18)**

• Cutaway views of **various major manufacturing, processing and business operations** are shown in a series of 21 by 22 inch full color enlargements offered by Armstrong Cork Co., Lancaster, Pa. Reproductions of paintings, the views show each process in several different lines and the only advertising is in the descriptive text at the bottom where Armstrong Cork Company insulations are mentioned. The enlargements should be especially valuable as a teaching aid and subjects covered include "How Frozen Orange Juice Is Made," "Behind the Scenes in a Food Market," "How an Office Building Operates," "How Cold Rubber Is Made," "How a Candy Factory Operates" and "How a Rayon Plant Operates." **(Key No. 19)**

• Complete information on **"Jalousie Windows and Doors by Ludman"** is available in a file folder type of brochure released by Ludman Corp., P.O. Box 4541, Miami, Fla. Sketches and photographs of installations are shown as are diagrammatic drawings of the windows. Complete descriptive data and specifications are also included. **(Key No. 20)**

• The various uses to which **PC Foamglas insulation** can be put are discussed in a new 36 page booklet recently released by Pittsburgh Corning Corp., 307 Fourth Ave., Pittsburgh 22, Pa. Included in the booklet is new information concerning the installation of Foamglas in floors, as a wall lining and for ceiling insulation, together with technical data and facts about PC accessory materials. **(Key No. 21)**

• Marinite, the Johns-Manville sheet material composed of asbestos fibers, silica and an inorganic binder, is discussed in a folder, **"Build and Insulate with One Material,"** recently released by Johns-Manville, 22 E. 40th St., New York 16. The four-page illustrated folder gives information on the structural use of Marinite for insulation and fireproofing as well as for other construction purposes. **(Key No. 22)**

• A revised edition of the two-color folder describing and illustrating **Governor Clinton Safedge tumblers** for institutional use is now available from Libbey Glass, Toledo 1, Ohio. **(Key No. 23)**

• Frigidaire Multiple Unit Air Conditioning equipment is discussed in a booklet, **"Air Condition Any Building In Town,"** recently published by Frigidaire Div., General Motors Corp., Dayton 1, Ohio. The advantages of air conditioning, how any sized building can be air conditioned quickly and economically and data on various phases of air conditioning and the types of buildings which have installed this system are subjects covered in the booklet. **(Key No. 24)**

• The story of DeVry 16 mm. sound motion picture projection equipment is told in an attractively presented booklet, **"DeVry Proudly Presents . . ."** Information is presented in editorial style and preceded by a Performance Comparison Chart. The booklet is issued by DeVry Corporation, 1111 Armitage Ave., Chicago 14. **(Key No. 25)**

• A new catalog of **"K&J Institutional Trucks"** has just been issued by Kilbourne & Jacobs Mfg. Co., Columbus 16, Ohio. Over 80 models are described and illustrated, each engineered specifically for its particular use with special attention to the selection of wheel and bearing and tire equipment. Included are kitchen, laundry and dish trucks; maid service and mop trucks; open and closed food service trucks in enameled or stainless steel, and many highly specialized units. **(Key No. 26)**

Suppliers' News

Automatic Pencil Sharpener Co., manufacturer of pencil sharpeners and related equipment, announces removal of its offices and factory from 1801 18th Ave., Rockford, Ill., to **336 N. Foothill Rd., Beverly Hills, Calif.**

Royal Metal Manufacturing Co., 175 N. Michigan Ave., Chicago 1, manufacturer of metal furniture, announces the election of **Hobart A. Green** as president of the company. **Joseph K. Salomon** has been elected president of the two Royal Metal subsidiaries on the West Coast.

STREAMLINE YOUR SOUP SERVICE With Famous Heinz Soups In 51-Oz. Tins!

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Chicken Noodle ● Chicken with Rice
Cream of Mushroom
Clam Chowder ● Cream of Chicken

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Institutional Truck Catalog

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Sheer Menu Magic!

Add zestful meat specialties... control your costs... with a

HOBART STEAKMASTER® TENDERIZER

Toppers for taste and stoppers for high costs, *Steakmaster* delivers value by the hatful. Vitalize your menus with *minute steaks*, beef roulades, steak sabiouse, veal birds, etc.—all made by *Steakmaster* Tenderizers from end cuts, trimmings and odd pieces. Leading chefs, stewards and dieticians agree that *Steakmaster* specialties can't be equaled for popular appeal. Nor for food-mileage.

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MODEL 400

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HERE ARE THE ADVANTAGES—

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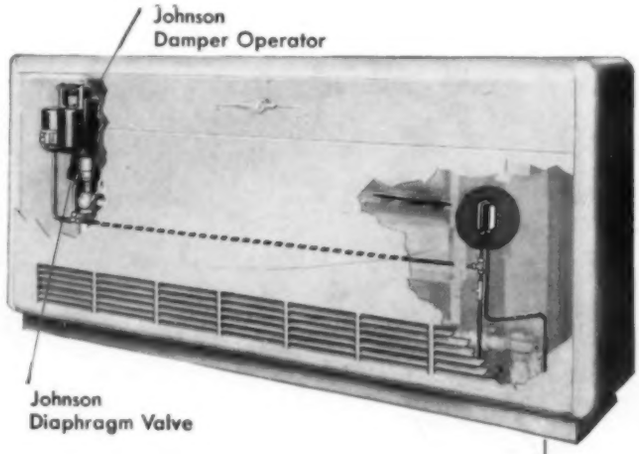

Ask a Johnson engineer from a nearby branch office to explain Johnson "Master-Submaster" Control in more detail. JOHNSON SERVICE COMPANY, Milwaukee 2, Wisconsin. Direct Branch Offices in Principal Cities.

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